

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

MORPHOSYS AG,)	
)	
Plaintiff,)	
)	
v.	)	C.A. No. 16-221 (LPS) (CJB)
)	
JANSSEN BIOTECH, INC.,	)	REDACTED –
GENMAB US, INC. and GENMAB A/S,	)	PUBLIC VERSION
)	
Defendants.)	

**DEFENDANTS' MOTION FOR LEAVE TO AMEND THEIR ANSWERS TO
ADD INEQUITABLE CONDUCT DEFENSES AND COUNTERCLAIMS**

OF COUNSEL:

Michael A. Morin
David P. Frazier
Emily K. Sauter
LATHAM & WATKINS LLP
555 Eleventh Street, NW, Suite 1000
Washington, DC 20004
(202) 637-2200

Roger J. Chin
LATHAM & WATKINS LLP
505 Montgomery Street, Suite 2000
San Francisco, CA 94111
(415) 391-0600

Michael R. Seringhaus
LATHAM & WATKINS LLP
140 Scott Drive
Menlo Park, CA 94306
(650) 328-4600

MORRIS, NICHOLS, ARSHT & TUNNELL LLP
Jack B. Blumenfeld (#1014)
Brian P. Egan (#6227)
1201 North Market Street
P.O. Box 1347
Wilmington, DE 19899
(302) 658-9200
jblumenfeld@mnat.com
began@mnat.com

*Attorneys for Defendants Janssen Biotech,
Inc., Genmab US, Inc., and Genmab A/S*

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

MORPHOSYS AG,)	
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Plaintiff,)	
)	
v.)	C.A. No. 16-221 (LPS) (CJB)
)	
JANSSEN BIOTECH, INC.,)	CONFIDENTIAL –
GENMAB US, INC. and GENMAB A/S,)	FILED UNDER SEAL
)	
Defendants.)	

**DEFENDANTS’ MOTION FOR LEAVE TO AMEND THEIR ANSWERS TO
ADD INEQUITABLE CONDUCT DEFENSES AND COUNTERCLAIMS**

Pursuant to Fed. R. Civ. P. 15(a)(2), Defendants Janssen Biotech, Inc., Genmab US, Inc., and Genmab A/S hereby move for leave to amend their respective answers to MorphoSys AG’s Second Amended Complaint to add allegations of inequitable conduct. For the reasons set forth in the accompanying letter brief, Defendants respectfully request that the Court grant this motion, and accept as filed Janssen Biotech, Inc.’s Amended Answer to MorphoSys AG’s Second Amended Complaint and Counterclaims, attached hereto as Exhibit A, and Genmab US, Inc. and Genmab A/S’s Amended Answer to MorphoSys’s Second Amended Complaint and Counterclaims, attached hereto as Exhibit C. Pursuant to Delaware Local Rule 15.1(b), a redline copy of the original pleadings are also attached as Exhibits B (Janssen Biotech, Inc.) and D (Genmab US, Inc. and Genmab A/S).

MORRIS, NICHOLS, ARSHT & TUNNELL LLP

/s/ Brian P. Egan

OF COUNSEL:

Michael A. Morin
David P. Frazier
Emily K. Sauter
LATHAM & WATKINS LLP
555 Eleventh Street, NW, Suite 1000
Washington, DC 20004
(202) 637-2200

Roger J. Chin
LATHAM & WATKINS LLP
505 Montgomery Street, Suite 2000
San Francisco, CA 94111
(415) 391-0600

Michael R. Seringhaus
LATHAM & WATKINS LLP
140 Scott Drive
Menlo Park, CA 94306
(650) 328-4600

March 5, 2018

Jack B. Blumenfeld (#1014)
Brian P. Egan (#6227)
1201 North Market Street
P.O. Box 1347
Wilmington, DE 19899
(302) 658-9200
jblumenfeld@mnat.com
began@mnat.com

*Attorneys for Defendants Janssen Biotech,
Inc., Genmab US, Inc., and Genmab A/S*

RULE 7.1.1 CERTIFICATE

I hereby certify that the subject of the foregoing motion has been discussed with counsel for the plaintiff and that we have not been able to reach agreement.

/s/ Brian P. Egan

Brian P. Egan (#6227)

CERTIFICATE OF SERVICE

I hereby certify that on March 5, 2018, I caused the foregoing to be electronically filed with the Clerk of the Court using CM/ECF, which will send notification of such filing to all registered participants.

I further certify that I caused copies of the foregoing document to be served on March 5, 2018, upon the following in the manner indicated:

Kelly E. Farnan, Esquire
Christine D. Haynes, Esquire
RICHARDS, LAYTON & FINGER, P.A.
One Rodney Square
920 North King Street
Wilmington, DE 19801
Attorneys for Plaintiff

VIA ELECTRONIC MAIL

James F. Hurst, Esquire
KIRKLAND & ELLIS LLP
300 North LaSalle
Chicago, IL 60654
Attorneys for Plaintiff

VIA ELECTRONIC MAIL

Patricia A. Carson, Esquire
Christopher T. Jagoe, Esquire
Aaron D. Resetarits, Esquire
Christopher Ilardi, Esquire
KIRKLAND & ELLIS LLP
601 Lexington Avenue
New York, NY 10022
Attorneys for Plaintiff

VIA ELECTRONIC MAIL

/s/ Brian P. Egan

Brian P. Egan (#6227)

EXHIBIT A

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

MORPHOSYS AG,)	
)	
Plaintiff,)	
)	
v.	)	C.A. No. 16-221 (LPS) (CJB)
)	
JANSSEN BIOTECH, INC.,	)	CONTAINS CONFIDENTIAL
GENMAB US, INC. and GENMAB A/S,	)	INFORMATION – FILED UNDER
	)	SEAL
Defendants.)	

**DEFENDANT JANSSEN BIOTECH, INC.’S AMENDED
ANSWER TO SECOND AMENDED COMPLAINT AND COUNTERCLAIMS**

Defendant Janssen Biotech, Inc. (“Janssen”) submits this Amended Answer to the Second Amended Complaint filed by Plaintiff MorphoSys AG (“MorphoSys”) on October 11, 2017 (D.I. 205, the “Second Amended Complaint”). To the extent not specifically admitted in the following paragraphs, the allegations in the Second Amended Complaint are denied.

PARTIES¹

1. Janssen is without information or knowledge sufficient to form a belief as to the truth of the allegations in paragraph 1 of the Second Amended Complaint, and therefore denies them.

2. Janssen is without information or knowledge sufficient to form a belief as to the truth of the allegations in paragraph 2 of the Second Amended Complaint, and therefore denies them.

3. Janssen admits the allegations in paragraph 3 of the Second Amended Complaint.

¹ Solely for convenience and clarity, Janssen has repeated herein the headings used by MorphoSys in the Second Amended Complaint. Although Janssen need not respond to headings, Janssen nonetheless denies the contents of the headings to the extent they can be construed to contain substantive allegations.

4. This paragraph is not directed to Janssen and therefore no response by Janssen is required. To the extent a response is deemed required, Janssen admits that Defendant Genmab A/S is a biotechnology company founded in Denmark with its principal place of business at Kalvebod Brygge 43, 1560 Copenhagen V, Denmark (previously Bredgade 34E, 1260 Copenhagen K, Denmark) based upon information and belief.

5. This paragraph is not directed to Janssen and therefore no response by Janssen is required. To the extent a response is deemed required, Janssen admits the allegations in paragraph 5 of the Second Amended Complaint based upon information and belief.

NATURE OF THE ACTION

6. Janssen admits that MorphoSys purports to assert infringement of United States Patent Nos. 8,263,746 (the “’746 Patent”), 9,200,061 (the “’061 Patent”), and 9,758,590 (the “’590 Patent”) under the Patent Laws of the United States, 35 U.S.C. §§ 1 *et seq.* Janssen admits that Darzalex[®] is the registered trade name for daratumumab, and that the current United States Food and Drug Administration (FDA)-approved label for Darzalex[®] indicates that the active ingredient in Darzalex[®] is daratumumab, a CD38-directed cytolytic antibody, indicated for use in combination with lenalidomide and dexamethasone, or bortezomib and dexamethasone, for the treatment of patients with multiple myeloma who have received at least one prior therapy, in combination with pomalidomide and dexamethasone, for the treatment of patients with multiple myeloma who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor (PI), or as monotherapy for the treatment of patients with multiple myeloma who have received at least three prior lines of therapy including a proteasome inhibitor (PI) and an immunomodulatory agent or who are double-refractory to a PI and an immunomodulatory

agent. Janssen denies that MorphoSys is entitled to any relief and denies the remaining allegations in paragraph 6 of the Second Amended Complaint.

JURISDICTION AND VENUE

7. Janssen admits that MorphoSys purports to assert that this Court has jurisdiction over the subject matter of the claims pursuant to 28 U.S.C. §§ 1331 and 1338(a), as alleged in paragraph 7 of the Second Amended Complaint, and admits, solely for the purpose of this action, that Janssen does not contest the existence of subject matter jurisdiction over Counts I–VIII of the Second Amended Complaint to the extent those counts are directed to Janssen.

8. Solely for the purpose of this action, Janssen admits that this Court has personal jurisdiction over Janssen with respect to Counts I–XII of the Second Amended Complaint to the extent those counts are directed to Janssen. Janssen denies the remaining allegations of paragraph 8 of the Second Amended Complaint.

9. Solely for the purpose of this action, Janssen admits that the Court has personal jurisdiction over Janssen with respect to Counts I–XIII of the Second Amended Complaint to the extent those counts are directed to Janssen. Janssen denies the remaining allegations of paragraph 9 of the Second Amended Complaint.

10. This paragraph is not directed to Janssen and therefore no response by Janssen is required. To the extent a response is deemed required, Janssen admits that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen otherwise denies the allegations in paragraph 10 of the Second Amended Complaint.

11. Janssen admits that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen denies the remaining allegations of paragraph 11 of the Second Amended Complaint.

12. This paragraph is not directed to Janssen and therefore no further response by Janssen is required. To the extent a response is deemed required, Janssen admits that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen admits that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the Investigational New Drug Application (IND) and provided input on Janssen's Biologics License Application (BLA) seeking FDA approval for daratumumab. Janssen admits that it is the sole owner and sponsor of the BLA for daratumumab, that Janssen has the exclusive right to market and sell Darzalex[®] (daratumumab) in the United States, and that the Genmab Defendants do not make, use, sell, or offer for sale Darzalex[®] (daratumumab) in the United States, or import Darzalex[®] (daratumumab) into the United States. Janssen denies or otherwise lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 12 of the Second Amended Complaint and therefore denies them.

13. This paragraph is not directed to Janssen and therefore no further response by Janssen is required. To the extent a response is deemed required, Janssen admits that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Upon information and belief, Janssen also admits that Dr. van de Winkel made

statements regarding Darzalex[®] subsequent to that agreement. Janssen admits that Genmab A/S's 2015 Annual Report, cited in paragraph 13 of the Second Amended Complaint, includes the statement: "Together with Janssen, we continue to work on the further development of daratumumab, both within the multiple myeloma space as well as in other cancer indications," in a section of the Report discussing clinical studies and regulatory applications. Janssen denies or otherwise lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 13 of the Second Amended Complaint and therefore denies them.

14. This paragraph is not directed to Janssen and therefore no further response by Janssen is required. To the extent a response is deemed required, Janssen admits that employees of Genmab A/S or its foreign affiliates were involved in the initiation of the preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab, and appear to have taken credit for their participation. Janssen denies the remaining allegations in paragraph 14 of the Second Amended Complaint.

15. This paragraph is not directed to Janssen and therefore no response by Janssen is required. To the extent a response is deemed required, Janssen admits the allegations in paragraph 15 of the Second Amended Complaint upon information and belief.

16. Janssen admits that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen denies the remaining allegations in paragraph 16 of the Second Amended Complaint.

17. Janssen does not dispute venue in this district for the purpose of this action.

FACTUAL BACKGROUND

18. Janssen admits that the '746 Patent is entitled "Anti-CD38 Human Antibodies and Uses Thereof" and that September 11, 2012, is identified on the face of the '746 Patent as its date of issuance. Janssen admits that Exhibit A purports to be a true and correct copy of the '746 Patent. Janssen denies the remaining allegations of paragraph 18 of the Second Amended Complaint.

19. Janssen admits that the '061 Patent is entitled "Generation and Profiling of Fully Human HuCAL Gold[®]-Derived Therapeutic Antibodies Specific for Human CD3[8]," as corrected by the Certificate of Correction dated May 10, 2016. Janssen admits that December 1, 2015, is identified on the face of the '061 Patent as its date of issuance. Janssen admits that Exhibit B purports to be a true and correct copy of the '061 Patent. Janssen denies the remaining allegations of paragraph 19 of the Second Amended Complaint.

20. Janssen admits that the '590 Patent is entitled "Anti-CD38 Human Antibodies and Uses Thereof," and that September 12, 2017, is identified on the face of the '590 Patent as its date of issuance. Janssen admits that Exhibit C purports to be a true and correct copy of the '590 Patent. Janssen denies the remaining allegations of paragraph 20 of the Second Amended Complaint.

21. Janssen admits that "Morphosys AG" is listed as the assignee on the face of the '746 Patent and refers to the patent for its full and complete contents. Janssen lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 21 of the Second Amended Complaint and therefore denies them.

22. Janssen admits that "Morpho Sys AG" is listed as the assignee on the face of the '061 Patent and refers to the patent for its full and complete contents. Janssen lacks knowledge

or information sufficient to form a belief about the truth of the remaining allegations in paragraph 22 of the Second Amended Complaint and therefore denies them.

23. Janssen admits that “Morpho Sys AG” is listed as the assignee on the face of the ’590 Patent and refers to the patent for its full and complete contents. Janssen lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 23 of the Second Amended Complaint and therefore denies them.

24. Janssen admits that the ’746 Patent is entitled “Anti-CD38 Human Antibodies and Uses Thereof” and refers to the patent for its full and complete contents. Janssen also admits that the ’061 Patent is entitled “Generation and Profiling of Fully Human HuCAL Gold[®]-Derived Therapeutic Antibodies Specific for Human CD3[8],” as corrected by the Certificate of Correction dated May 10, 2016 and refers to the patent for its full and complete contents. Janssen admits that the ’590 Patent is entitled “Anti-CD38 Human Antibodies and Uses Thereof,” and refers to the patent for its full and complete contents. Janssen admits that CD38 is a surface protein that is expressed by multiple myeloma cells. Janssen lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 24 of the Second Amended Complaint and therefore denies them.

25. Upon information and belief, Janssen admits that multiple myeloma is a common blood cancer that afflicts many people in the United States resulting in many deaths. Janssen denies the remaining allegations in paragraph 25 of the Second Amended Complaint.

26. This paragraph is not directed to Janssen and therefore no response by Janssen is required. To the extent a response is deemed required, Janssen admits that, upon information and belief, certain employees of Genmab A/S or its foreign affiliates invented daratumumab. Janssen also admits that certain employees of Genmab A/S or its foreign affiliates initiated

preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab. Janssen denies the remaining allegations in paragraph 26 of the Second Amended Complaint.

27. Janssen admits that the current FDA-approved label for Darzalex[®] indicates that daratumumab is a CD38-directed cytolytic antibody indicated for use “in combination with lenalidomide and dexamethasone, or bortezomib and dexamethasone, for the treatment of patients with multiple myeloma who have received at least one prior therapy”; “in combination with pomalidomide and dexamethasone, for the treatment of patients with multiple myeloma who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor (PI)”; or “as monotherapy for the treatment of patients with multiple myeloma who have received at least three prior lines of therapy including a proteasome inhibitor (PI) and an immunomodulatory agent or who are double-refractory to a PI and an immunomodulatory agent.” Janssen denies the remaining allegations in paragraph 27 of the Second Amended Complaint.

28. Janssen admits that the current FDA-approved label for Darzalex[®] states that daratumumab is a CD38-directed cytolytic antibody indicated for use “in combination with lenalidomide and dexamethasone, or bortezomib and dexamethasone, for the treatment of patients with multiple myeloma who have received at least one prior therapy”; “in combination with pomalidomide and dexamethasone, for the treatment of patients with multiple myeloma who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor (PI)”; or “as monotherapy, for the treatment of patients with multiple myeloma who have received at least three prior lines of therapy including a proteasome inhibitor (PI) and an immunomodulatory agent or who are double-refractory to a PI and an immunomodulatory

agent.” Janssen admits that Darzalex[®] is administered to patients. Janssen denies the remaining allegations in paragraph 28 of the Second Amended Complaint.

29. Janssen admits that Genmab A/S granted Janssen a worldwide exclusive license for the development, manufacture, and commercialization of daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen denies the remaining allegations in paragraph 29 of the Second Amended Complaint.

30. Janssen admits that Genmab A/S granted Janssen a worldwide exclusive license for the development, manufacture, and commercialization of daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen admits that pursuant to the license agreement, Genmab A/S received from Janssen a \$55 million payment as an upfront license fee and a \$45 million payment associated with the first commercial sale by Janssen in the United States, and certain milestone payments. Janssen also admits that Johnson & Johnson Development Corporation invested DKK 475 million, which correspond to approximately \$80 million, in Genmab A/S shares. Janssen denies the remaining allegations in paragraph 30 of the Second Amended Complaint.

31. Janssen admits that the FDA granted fast track and breakthrough therapy approval to Janssen for Darzalex[®] (daratumumab) on November 16, 2015. Janssen admits that it is the sole owner and sponsor of the BLA for daratumumab, that Janssen has the exclusive right to market and sell Darzalex[®] (daratumumab) in the United States, and that the Genmab Defendants do not make, use, sell, or offer for sale Darzalex[®] (daratumumab) in the United States, or import Darzalex[®] (daratumumab) into the United States. Janssen denies the remaining allegations in paragraph 31 of the Second Amended Complaint.

32. Janssen admits that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen admits that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab. Janssen admits that it is the sole owner and sponsor of the BLA for daratumumab, that Janssen has the exclusive right to market and sell Darzalex[®] (daratumumab) in the United States, and that the Genmab Defendants do not make, use, sell, or offer for sale Darzalex[®] (daratumumab) in the United States, or import Darzalex[®] (daratumumab) into the United States. Janssen denies the remaining allegations of paragraph 32 of the Second Amended Complaint.

33. Janssen admits that Genmab A/S provided Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen admits that it obtained FDA fast track and breakthrough therapy approval to market Darzalex[®] (daratumumab) in November 2015; admits that as the sole owner and sponsor of the BLA for daratumumab, Janssen has had exclusive rights to market and sell Darzalex[®] (daratumumab) in the United States since then; and admits that the Genmab Defendants do not make, use, sell, or offer for sale Darzalex[®] (daratumumab) in the United States, or import Darzalex[®] (daratumumab) into the United States. Upon information and belief, Janssen admits that Genmab A/S has issued media releases reporting the progress of clinical studies relating to daratumumab, and admits that, upon information and belief, these media releases are primarily targeted to investors and potential investors of Genmab A/S. Janssen denies the remaining allegations in paragraph 33 of the Second Amended Complaint.

34. Janssen denies the allegations of paragraph 34 of the Second Amended Complaint.

35. Janssen admits that, as the sole owner and sponsor of the BLA for Darzalex[®] (daratumumab), it promotes, markets, and sells Darzalex[®] (daratumumab) in the United States.

36. Janssen admits that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen admits that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab. Janssen admits that paragraph 36 of the Second Amended Complaint refers to a transcript of a conference call of August 30, 2012, and refers to the transcript for its full and complete contents. Janssen further admits that the transcript indicates with respect to the GEN504 clinical trial, Dr. Van de Winkel stated in part, "Janssen will operationally execute that one, but Genmab will be very, very involved because we wrote the protocol etc. But Janssen will operationally manage that." Janssen denies the remaining allegations in paragraph 36 of the Second Amended Complaint.

37. Janssen admits that United States Patent No. 7,829,673 (the "'673 Patent") indicates it was filed on March 23, 2006, and that "Genmab A/S" is listed as the assignee on the face of the '673 Patent.

38. This paragraph is not directed to Janssen and therefore no further response by Janssen is required. To the extent a response is deemed required, Janssen admits that WO/2005/103083 A2 refers to an antibody called "MOR03079"; admits that PCT publication WO/2005/103083 A2 is cited in the '673 Patent; admits that the PCT publication was cited by Genmab A/S on an Information Disclosure Statement during prosecution of the '673 Patent;

admits that the United States Patent and Trademark Office determined that the subject matter claimed in the '673 Patent was patentable over WO/2005/103083; and admits that the '673 Patent issued on November 9, 2010, before the issuance of the '746 Patent. Janssen also admits that the monoclonal antibody daratumumab is referred to in the specification of the '673 Patent as the "–005 antibody." Janssen admits that the '673 Patent provides data indicating that Genmab's –005 antibody exhibited superior characteristics in comparison to MOR03079. Janssen also admits that the '746 Patent is purportedly the National Phase patent derived from the PCT publication. Janssen otherwise denies the allegations in paragraph 38 of the Second Amended Complaint.

39. Janssen denies the allegations in paragraph 39 of the Second Amended Complaint.

40. Janssen admits that the current FDA-approved label for Darzalex[®] (daratumumab) indicates that daratumumab "binds to CD38 and inhibits the growth of CD38 expressing tumor cells." Janssen admits that the determination of where an antibody binds on a specific antigen may depend on the test used, and that no such determination for daratumumab has been made using the "PepSpot-Analysis" described in the '746 Patent. Janssen admits that paragraph 38 of the Second Amended Complaint references a document that states, "[a]mino acids D202, Q272, and especially S274 are essential for daratumumab binding," and admits that these results were not obtained using the "PepSpot-Analysis" described in the '746 Patent. Janssen denies the remaining allegations in paragraph 40 of the Second Amended Complaint.

41. Janssen denies the allegations in paragraph 41 of the Second Amended Complaint.

42. This paragraph is not directed to Janssen and therefore no response is required. To the extent a response is deemed required, Janssen denies the allegations in paragraph 42 of the Second Amended Complaint.

43. Janssen denies the allegations in paragraph 43 of the Second Amended Complaint.

44. Janssen admits that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen admits that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab. Janssen denies the remaining allegations in paragraph 44 of the Second Amended Complaint.

45. Janssen denies the allegations in paragraph 45 of the Second Amended Complaint.

46. Janssen admits that the link provided in paragraph 46 of the Second Amended Complaint links to a webpage that appears to be dated "6-12-2012" and that the web page refers to the '746 Patent, but denies that the '746 Patent issued by June 12, 2012. Janssen lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 46 of the Second Amended Complaint and therefore denies them.

47. Janssen admits that paragraph 47 of the Second Amended Complaint refers to a transcript of a conference call, and refers to the transcript for its full and complete contents. Janssen admits that the transcript indicates that Dr. Van de Winkel stated, in part, that "this patent was known since 2011 and has been studied very carefully. There has been extensive due diligence by Janssen as well as more than 10 other pharma or biotech companies on this patent

case, we believe.” Janssen denies or otherwise lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 47 of the Second Amended Complaint and therefore denies them.

48. Janssen denies the allegations in paragraph 48 of the Second Amended Complaint.

49. Janssen admits that it filed a European Opposition to EP2511297 B1 on January 7, 2016. Janssen also admits that, upon information and belief, Genmab A/S filed a European Opposition to EP2511297 B1 on January 8, 2016. Janssen admits that the ’746 Patent purports to be the National Stage Entry of PCT/IB2005/002476, which was published as Int’l Patent Publ. No. WO2005/103083 and European Patent No. EP2511297 A1. Janssen admits that EP2511297 B1 and the ’746 Patent purport to claim priority to United States Provisional Application Nos. 60/614,471; 60/599,014; 60/553,948; 60/547,584; and 60/541,911. Janssen denies the remaining allegations in paragraph 49 of the Second Amended Complaint.

50. Janssen admits that it knew of the issuance of the ’746 Patent after its issuance. Janssen denies the remaining allegations in paragraph 50 of the Second Amended Complaint.

51. This paragraph is not directed to Janssen and therefore no response by Janssen is required. To the extent a response is deemed required, Janssen admits upon information and belief that the Genmab Defendants knew of the issuance of the ’746 Patent after its issuance, but denies the remaining allegations in paragraph 51 of the Second Amended Complaint.

52. Janssen admits that it learned of the ’061 Patent after its issuance. Janssen denies the remaining allegations in paragraph 52 of the Second Amended Complaint.

53. This paragraph is not directed to Janssen and therefore no response by Janssen is required. To the extent a response is deemed required, Janssen admits upon information and

belief that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance, but denies the remaining allegations in paragraph 53 of the Second Amended Complaint.

54. Janssen admits the allegations in paragraph 54 of the Second Amended Complaint.

55. This paragraph is not directed to Janssen and therefore no response by Janssen is required. To the extent a response is deemed required, Janssen admits, upon information and belief, that the Genmab Defendants knew of the issuance of the '590 Patent after its issuance, but denies the remaining allegations in paragraph 55 of the Second Amended Complaint.

56. Janssen admits that it knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, that it was aware of the '590 Patent upon its issuance, and that it has sold Darzalex® since then. Janssen admits, on information and belief, that the Genmab Defendants knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, and that they were aware of the '590 Patent upon its issuance. Janssen otherwise denies the allegations in paragraph 56 of the Second Amended Complaint.

57. Janssen admits that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen admits that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab. Janssen denies the remaining allegations in paragraph 57 of the Second Amended Complaint.

58. Janssen denies the allegations in paragraph 58 of the Second Amended Complaint.

59. This paragraph is not directed to Janssen and therefore no response by Janssen is required. To the extent a response is deemed required, Janssen denies the allegations in paragraph 59 of the Second Amended Complaint.

60. Janssen denies the allegations in paragraph 60 of the Second Amended Complaint.

61. Janssen denies the allegations in paragraph 61 of the Second Amended Complaint.

62. Janssen denies the allegations in paragraph 62 of the Second Amended Complaint.

63. Janssen denies the allegations in paragraph 63 of the Second Amended Complaint.

64. Janssen admits that the Indications and Usage section of the current FDA-approved label for Darzalex[®] states that “DARZALEX is a CD38-directed cytolytic antibody indicated” “in combination with lenalidomide and dexamethasone, or bortezomib and dexamethasone, for the treatment of patients with multiple myeloma who have received at least one prior therapy”; “in combination with pomalidomide and dexamethasone, for the treatment of patients with multiple myeloma who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor (PI)”; or “as monotherapy, for the treatment of patients with multiple myeloma who have received at least three prior lines of therapy including a proteasome inhibitor (PI) and an immunomodulatory agent or who are double-refractory to a PI and an immunomodulatory agent.” Janssen denies the remaining allegations in paragraph 64 of the Second Amended Complaint.

65. Janssen denies the allegations in paragraph 65 of the Second Amended Complaint.

66. Janssen admits that Janssen is conducting clinical studies in support of additional indications for Darzalex[®] (daratumumab). Janssen denies the remaining allegations in paragraph 66 of the Second Amended Complaint.

COUNT I
Infringement of the '746 Patent by Janssen

67. Janssen repeats and realleges its responses to paragraphs 1 through 66 of the Second Amended Complaint as if fully set forth herein.

68. Janssen denies the allegations in paragraph 68 of the Second Amended Complaint.

69. Janssen denies the allegations in paragraph 69 of the Second Amended Complaint.

70. Janssen denies the allegations in paragraph 70 of the Second Amended Complaint.

71. Janssen denies the allegations in paragraph 71 of the Second Amended Complaint.

COUNT II
Infringement of the '746 Patent by Genmab

72. Janssen repeats and realleges its responses to paragraphs 1 through 71 of the Second Amended Complaint as if fully set forth herein.

73. Janssen denies the allegations in paragraph 73 of the Second Amended Complaint.

74. Janssen denies the allegations in paragraph 74 of the Second Amended Complaint.

75. Janssen denies the allegations in paragraph 75 of the Second Amended Complaint.

COUNT III
Infringement of the '746 Patent by Genmab US, Inc.

76. Janssen repeats and realleges its responses to paragraphs 1 through 75 of the Second Amended Complaint as if fully set forth herein.

77. Janssen denies the allegations in paragraph 77 of the Second Amended Complaint.

78. Janssen denies the allegations in paragraph 78 of the Second Amended Complaint.

79. Janssen denies the allegations in paragraph 79 of the Second Amended Complaint.

COUNT IV
Infringement of the '746 Patent by Janssen/Genmab/Genmab US, Inc.

80. Janssen repeats and realleges its responses to paragraphs 1 through 79 of the Second Amended Complaint as if fully set forth herein.

81. Janssen denies the allegations in paragraph 81 of the Second Amended Complaint.

82. Janssen denies the allegations in paragraph 82 of the Second Amended Complaint.

83. Janssen denies the allegations in paragraph 83 of the Second Amended Complaint.

84. Janssen denies the allegations in paragraph 84 of the Second Amended Complaint.

85. Janssen denies the allegations in paragraph 85 of the Second Amended Complaint.

COUNT V
Infringement of the '061 Patent by Janssen

86. Janssen repeats and realleges its responses to paragraphs 1 through 85 of the Second Amended Complaint as if fully set forth herein.

87. Janssen denies the allegations in paragraph 87 of the Second Amended Complaint.

88. Janssen denies the allegations in paragraph 88 of the Second Amended Complaint.

89. Janssen denies the allegations in paragraph 89 of the Second Amended Complaint.

90. Janssen denies the allegations in paragraph 90 of the Second Amended Complaint.

91. Janssen admits that it received a copy of the '061 Patent at the time MorphoSys sought leave to file the First Amended Complaint and that Janssen knew of the issuance of the '061 Patent after its issuance. Janssen otherwise denies the remaining allegations of paragraph 91 of the Second Amended Complaint.

92. Janssen denies the allegations in paragraph 92 of the Second Amended Complaint.

93. Janssen admits that it received a copy of the '061 Patent at the time MorphoSys sought leave to file the First Amended Complaint and that Janssen knew of the issuance of the

'061 Patent after its issuance. Janssen denies the remaining allegations in paragraph 93 of the Second Amended Complaint.

94. Janssen denies the allegations in paragraph 94 of the Second Amended Complaint.

95. Janssen denies the allegations in paragraph 95 of the Second Amended Complaint.

96. Janssen denies the allegations in paragraph 96 of the Second Amended Complaint.

97. Janssen denies the allegations in paragraph 97 of the Second Amended Complaint.

98. Janssen denies the allegations in paragraph 98 of the Second Amended Complaint.

COUNT VI
Infringement of the '061 Patent by Genmab

99. Janssen repeats and realleges its responses to paragraphs 1 through 98 of the Second Amended Complaint as if fully set forth herein.

100. Janssen denies the allegations in paragraph 100 of the Second Amended Complaint.

101. Janssen denies the allegations in paragraph 101 of the Second Amended Complaint.

102. Janssen denies the allegations in paragraph 102 of the Second Amended Complaint.

103. Janssen denies the allegations in paragraph 103 of the Second Amended Complaint.

104. Janssen admits, upon information and belief, that the Genmab Defendants received a copy of the '061 Patent at the time MorphoSys sought leave to file the First Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. Janssen otherwise denies the allegations of paragraph 104 of the Second Amended Complaint.

105. Janssen denies the allegations in paragraph 105 of the Second Amended Complaint.

106. Janssen admits, upon information and belief, that the Genmab Defendants received a copy of the '061 Patent at the time MorphoSys sought leave to file the First Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. Janssen denies the remaining allegations in paragraph 106 of the Second Amended Complaint.

107. Janssen denies the allegations in paragraph 107 of the Second Amended Complaint.

108. Janssen denies the allegations in paragraph 108 of the Second Amended Complaint.

109. Janssen denies the allegations in paragraph 109 of the Second Amended Complaint.

110. Janssen denies the allegations in paragraph 110 of the Second Amended Complaint.

COUNT VII
Infringement of the '061 Patent by Genmab US, Inc.

111. Janssen repeats and realleges its responses to paragraphs 1 through 110 of the Second Amended Complaint as if fully set forth herein.

112. Janssen denies the allegations in paragraph 112 of the Second Amended Complaint.

113. Janssen denies the allegations in paragraph 113 of the Second Amended Complaint.

114. Janssen denies the allegations in paragraph 114 of the Second Amended Complaint.

115. Janssen denies the allegations in paragraph 115 of the Second Amended Complaint.

116. Janssen admits, upon information and belief, that the Genmab Defendants received a copy of the '061 Patent at the time MorphoSys sought leave to file the First Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. Janssen otherwise denies the allegations of paragraph 116 of the Second Amended Complaint.

117. Janssen denies the allegations in paragraph 117 of the Second Amended Complaint.

118. Janssen admits, upon information and belief, that the Genmab Defendants received a copy of the '061 Patent at the time MorphoSys sought leave to file the First Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. Janssen denies the remaining allegations in paragraph 118 of the Second Amended Complaint.

119. Janssen denies the allegations in paragraph 119 of the Second Amended Complaint.

120. Janssen denies the allegations in paragraph 120 of the Second Amended Complaint.

121. Janssen denies the allegations in paragraph 121 of the Second Amended Complaint.

122. Janssen denies the allegations in paragraph 122 of the Second Amended Complaint.

COUNT VIII

Infringement of the '061 Patent by Janssen/Genmab/Genmab US, Inc.

123. Janssen repeats and realleges its responses to paragraphs 1 through 122 of the Second Amended Complaint as if fully set forth herein.

124. Janssen denies the allegations in paragraph 124 of the Second Amended Complaint.

125. Janssen denies the allegations in paragraph 125 of the Second Amended Complaint.

126. Janssen denies the allegations in paragraph 126 of the Second Amended Complaint.

127. Janssen denies the allegations in paragraph 127 of the Second Amended Complaint.

128. Janssen admits that it received a copy of the '061 Patent at the time MorphoSys sought leave to file the First Amended Complaint and that Janssen knew of the issuance of the '061 Patent after its issuance. Janssen admits, upon information and belief, that the Genmab Defendants received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that the Genmab Defendants knew of the issuance of the '061

Patent after its issuance. Janssen otherwise denies the remaining allegations of paragraph 128 of the Second Amended Complaint.

129. Janssen denies the allegations in paragraph 129 of the Second Amended Complaint.

130. Janssen admits that it received a copy of the '061 Patent at the time MorphoSys sought leave to file the First Amended Complaint and that Janssen knew of the issuance of the '061 Patent after its issuance. Janssen admits, upon information and belief, that the Genmab Defendants received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. Janssen otherwise denies the allegations in paragraph 130 of the Second Amended Complaint.

131. Janssen denies the allegations in paragraph 131 of the Second Amended Complaint.

132. Janssen denies the allegations in paragraph 132 of the Second Amended Complaint.

133. Janssen denies the allegations in paragraph 133 of the Second Amended Complaint.

134. Janssen denies the allegations in paragraph 134 of the Second Amended Complaint.

135. Janssen denies the allegations of paragraph 135 of the Second Amended Complaint.

COUNT IX
Infringement of the '590 Patent by Janssen

136. Janssen repeats and realleges its responses to paragraphs 1 through 135 of the Second Amended Complaint as if fully set forth herein.

137. Janssen denies the allegations in paragraph 137 of the Second Amended Complaint.

138. Janssen denies the allegations in paragraph 138 of the Second Amended Complaint.

139. Janssen denies the allegations in paragraph 139 of the Second Amended Complaint.

140. Janssen denies the allegations in paragraph 140 of the Second Amended Complaint.

141. Janssen admits that it knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, that it was aware of the '590 Patent upon its issuance, and that it has sold Darzalex[®] since then. Janssen otherwise denies the allegations in paragraph 141 of the Second Amended Complaint.

142. Janssen denies the allegations in paragraph 142 of the Second Amended Complaint.

143. Janssen admits that it knew of the issuance of the '590 Patent after its issuance. Janssen denies the remaining allegations in paragraph 143 of the Second Amended Complaint.

144. Janssen denies the allegations in paragraph 144 of the Second Amended Complaint.

145. Janssen denies the allegations in paragraph 145 of the Second Amended Complaint.

146. Janssen denies the allegations in paragraph 146 of the Second Amended Complaint.

147. Janssen denies the allegations in paragraph 147 of the Second Amended Complaint.

COUNT X
Infringement of the '590 Patent by Genmab

148. Janssen repeats and realleges its responses to paragraphs 1 through 147 of the Second Amended Complaint as if fully set forth herein.

149. Janssen denies the allegations in paragraph 149 of the Second Amended Complaint.

150. Janssen denies the allegations in paragraph 150 of the Second Amended Complaint.

151. Janssen denies the allegations in paragraph 151 of the Second Amended Complaint.

152. Janssen denies the allegations in paragraph 152 of the Second Amended Complaint.

153. Janssen admits, on information and belief, that the Genmab Defendants knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, that they were aware of the '590 Patent upon its issuance, and that Janssen has sold Darzalex[®] since then. Janssen otherwise denies the allegations in paragraph 153 of the Second Amended Complaint.

154. Janssen denies the allegations in paragraph 154 of the Second Amended Complaint.

155. Janssen admits, upon information and belief, that the Genmab Defendants knew of the issuance of the '590 Patent after its issuance. Janssen otherwise denies the allegations in paragraph 155 of the Second Amended Complaint.

156. Janssen denies the allegations in paragraph 156 of the Second Amended Complaint.

157. Janssen denies the allegations in paragraph 157 of the Second Amended Complaint.

158. Janssen denies the allegations in paragraph 158 of the Second Amended Complaint.

159. Janssen denies the allegations in paragraph 159 of the Second Amended Complaint.

COUNT XI
Infringement of the '590 Patent by Genmab US, Inc.

160. Janssen repeats and realleges its responses to paragraphs 1 through 159 of the Second Amended Complaint as if fully set forth herein.

161. Janssen denies the allegations in paragraph 161 of the Second Amended Complaint.

162. Janssen denies the allegations in paragraph 162 of the Second Amended Complaint.

163. Janssen denies the allegations in paragraph 163 of the Second Amended Complaint.

164. Janssen denies the allegations in paragraph 164 of the Second Amended Complaint.

165. Janssen admits, upon information and belief, that the Genmab Defendants knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, that they were aware of the '590 Patent upon its issuance, and that Janssen has sold Darzalex[®] since then. Janssen otherwise denies the allegations in paragraph 165 of the Second Amended Complaint.

166. Janssen denies the allegations in paragraph 166 of the Second Amended Complaint.

167. Janssen, admits, upon information and belief, that the Genmab Defendants knew of the issuance of the '590 Patent after its issuance. Janssen otherwise denies the remaining allegations in paragraph 167 of the Second Amended Complaint.

168. Janssen denies the allegations in paragraph 168 of the Second Amended Complaint.

169. Janssen denies the allegations in paragraph 169 of the Second Amended Complaint.

170. Janssen denies the allegations in paragraph 170 of the Second Amended Complaint.

171. Janssen denies the allegations in paragraph 171 of the Second Amended Complaint.

COUNT XII

Infringement of the '590 Patent by Janssen/Genmab/Genmab US, Inc.

172. Janssen repeats and realleges its responses to paragraphs 1 through 171 of the Second Amended Complaint as if fully set forth herein.

173. Janssen denies the allegations in paragraph 173 of the Second Amended Complaint.

174. Janssen denies the allegations in paragraph 174 of the Second Amended Complaint.

175. Janssen denies the allegations in paragraph 175 of the Second Amended Complaint.

176. Janssen denies the allegations in paragraph 176 of the Second Amended Complaint.

177. Janssen admits that it knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, that it was aware of the '590 Patent upon its issuance, and that it has sold Darzalex[®] since then. Janssen admits, on information and belief, that the Genmab Defendants knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, and that they were aware of the '590 Patent upon its issuance. Janssen otherwise denies the allegations in paragraph 177 of the Second Amended Complaint.

178. Janssen denies the allegations in paragraph 178 of the Second Amended Complaint.

179. Janssen admits that it knew of the issuance of the '590 Patent after its issuance. Janssen admits, upon information and belief, that the Genmab Defendants knew of the issuance of the '590 Patent after its issuance. Janssen otherwise denies the allegations in paragraph 179 of the Second Amended Complaint.

180. Janssen denies the allegations in paragraph 180 of the Second Amended Complaint.

181. Janssen denies the allegations in paragraph 181 of the Second Amended Complaint.

182. Janssen denies the allegations in paragraph 182 of the Second Amended Complaint.

183. Janssen denies the allegations in paragraph 183 of the Second Amended Complaint.

184. Janssen denies the allegations of paragraph 184 of the Second Amended Complaint.

MORPHOSYS'S PRAYER FOR RELIEF

185. Janssen reasserts and incorporates herein by reference its responses to Paragraphs 1 through 184 of the Second Amended Complaint and denies that MorphoSys is entitled to any relief or judgment against Janssen whatsoever, including the relief requested in paragraphs A–F of the Second Amended Complaint. All allegations not specifically admitted are denied.

DEMAND FOR JURY TRIAL

186. Janssen acknowledges that the Second Amended Complaint sets forth a demand for trial by jury.

AFFIRMATIVE DEFENSES

187. Janssen hereby asserts the following defenses, undertaking the burden of proof only to the extent required by law:

FIRST DEFENSE (Noninfringement)

188. The making, using, offering to sell, selling and/or importing into the United States of the accused antibody product, Darzalex[®] (daratumumab) has not infringed, does not infringe, and would not, if made, used, sold, offered for sale, and/or imported into the United States, directly or indirectly infringe any valid and enforceable claim of the '746, '061, or '590 Patents, either literally or under the doctrine of equivalents.

SECOND DEFENSE
(No Induced Infringement)

189. Janssen has not induced, does not induce, and will not induce infringement of any valid and enforceable claim of the '746, '061, or '590 Patents.

THIRD DEFENSE
(No Contributory Infringement)

190. Janssen has not contributed, does not contribute, and will not contribute to infringement of any valid and enforceable claim of the '746, '061, or '590 Patents.

FOURTH DEFENSE
(Invalidity)

191. The claims of the '746, '061, or '590 Patents are invalid for failure to satisfy one or more of the requirements of the patent laws of the United States, including but not limited to, 35 U.S.C. §§ 101, 102, 103, or 112.

FIFTH DEFENSE
(Failure to State a Claim)

192. The Second Amended Complaint fails to state a claim upon which relief can be granted.

SIXTH DEFENSE
(Prosecution History Estoppel)

193. MorphoSys's claims are barred, in whole or in part, by representations or actions taken during the prosecution of the '746, '061, or '590 Patents, and related patents and applications, under the doctrine of prosecution-history estoppel, or prosecution disclaimer.

SEVENTH DEFENSE
(35 U.S.C. § 288)

194. MorphoSys is not entitled to seek recovery of its costs pursuant to 35 U.S.C. § 288.

EIGHTH DEFENSE
(Exceptional Case)

195. This case is exceptional under 35 U.S.C. § 285. Janssen is entitled to an award of its attorneys' fees in connection with defending and prosecuting this action.

NINTH DEFENSE
(Inequitable Conduct)

196. The '746, '061, and '590 Patents are unenforceable due to inequitable conduct, for the reasons set forth in paragraphs 198 to 354 of the Counterclaim, set forth below.

RESERVATION OF RIGHTS

197. In filing the defenses, Janssen has not knowingly or intentionally waived any applicable defenses. Janssen reserves the right to assert and rely upon any other applicable defenses that may become available or apparent during the course of this action. Janssen reserves the right to amend or to seek to amend its answer or affirmative defenses.

COUNTERCLAIMS
(Declaratory Judgment of Unenforceability)

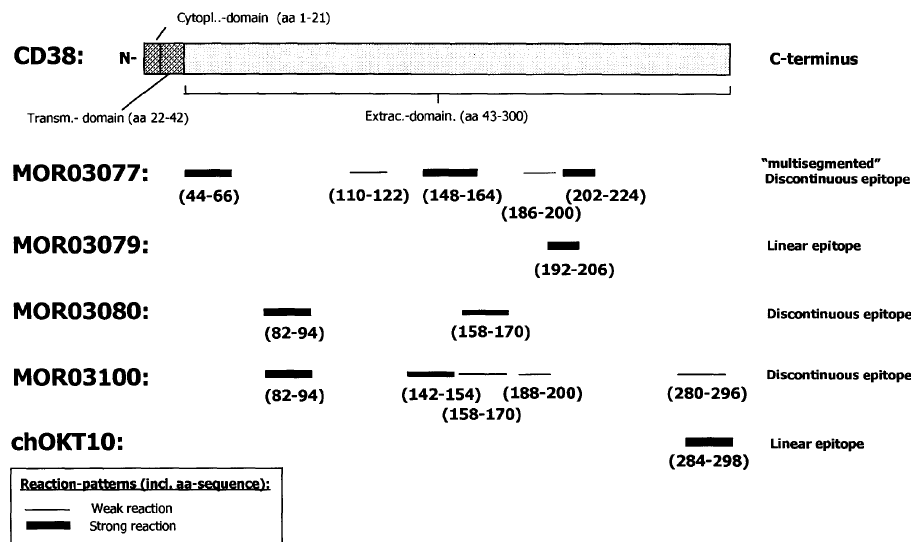
198. This is a counterclaim for declaratory judgment pursuant to 28 U.S.C. §§ 2201 and 2202 for the purpose of determining an actual and justiciable controversy between the parties. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338 (a).

The Patents-in-Suit

199. The '746, '061, and '590 Patents all include claims to antibodies that bind to the naturally occurring protein CD38, and methods of using those antibodies. In an effort to distinguish these antibodies from those in the prior art, the claims define them, in whole or in part, according to their ability to bind specific regions of amino acids on the CD38 protein. For example, claim 15 of the '746 Patent claims an antibody that "specifically binds within amino acids 44-66, 82-94, 142-154, 148-164, 158-170, or 192-206 of CD38 (SEQ ID NO: 22)." '746

Patent 68:45-48 (claim 15). The patents define the regions of CD38 to which the claimed antibodies bind as their “epitope.” All three patents base these epitope claims solely on the data shown in Figure 7, described as “a schematic overview of epitopes of representative antibodies of the present invention” from a “PepSpot analysis” (’746 Patent at 5:23-24, 27:5-9):

Fig.7: Schematic Overview of Epitopes



200. Figure 7 sets forth the “purported” epitopes of four disclosed antibodies: MOR03077, MOR03079, MOR03080, and MOR03100. For example, MOR03080 is shown to bind an epitope consisting of amino acid regions 82-94 and 158-170 of CD38, whereas MOR03079 is shown to bind an epitope consisting of positions 192-206 of CD38. The prior art chOKT10 antibody is reported to bind an epitope consisting of amino acid region 284-298, which lies in the C-terminal region of CD38

201. Based solely on this Figure 7 data, the specifications of all three patents report that for MOR03080 the epitope “peptides comprise aa 82-94 and aa 158-170,” whereas “[t]he epitope for MOR03079 can be postulated within aa 192-206 (VSRRFAEAACDVVHV (SEQ ID NO: 38)) of CD38....” For MOR3077, the postulated epitope “includes aa 44-66, 110-122, 148-

164, 186-200 and 202-224,” and for MOR3100, the epitope peptides comprise “aa 82-94, 142-154, 158-170, 188-200 and 280-296.” *See* ’746 Patent 27:22-36; ’061 Patent 26:38-52; ’590 Patent 24:39-53 (all Example 6).

202. Based solely on the epitope results presented in Figure 7, the Patents-in-Suit claim antibodies by their epitopes, and include claims directed specifically to any human or humanized antibodies that specifically bind within amino acids 82-94 and 158-170 (corresponding to MOR03080).

203. Both the ’746 and ’061 Patents claim specific antibodies (and methods of using them) that bind the epitope disclosed in Figure 7 for MOR03080, namely the amino acid regions 82-94 and 158-170 of CD38. These claims include ’746 Patent asserted claim 15 (“specifically binds within amino acids 44-66, **82-94**, 142-154, 148- 164, **158-170**, or 192-206 of CD38”); ’746 Patent claim 19 (“specifically binds within amino acids **82-94** or **158-170** of CD38”); ’746 Patent claim 20 (“specifically binds within amino acids **82-94** or **158-170** of CD38”); ’061 Patent claim 3 (“binds an epitope of CD38 that contains one or more amino acid residues within **82-94 and 158-170**”); and ’061 Patent claims 5 through 15 (multiple dependent on claim 3). Although the ’590 Patent does not include claims drawn specifically to the MOR03080 ranges 82-94 and 158-170, such claims were repeatedly sought during prosecution of that patent—at which point MorphoSys directed the examiner to the same Figure 7 data for support. *See* ’590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 15. In addition, the ultimately issued claims, while directed to other amino acid sequences, likewise rely on Figure 7 for support.

Prosecution of the Patents-in-Suit

204. During prosecution, MorphoSys relied exclusively on Figure 7 as the sole written description support for its claimed epitope ranges.

205. For example, during prosecution of the '746 Patent, MorphoSys submitted new claims 142-148 directed to, *e.g.*, “[a]n isolated antibody or antibody fragment thereof containing an antigen-binding region... which specifically binds within amino acids **82-94** or **158-170** of CD38”—a region identical to disclosed epitopes for MOR03080 in Figure 7. In its accompanying applicant remarks, MorphoSys told the Examiner that “[s]upport for these claims can be found, for example, at Figure 7 and ¶¶ 0136-0138 of the published specification.” ’746 Patent file history, Oct. 18, 2011 Response to Non-Final Rejection at 8. (The paragraphs of the published specification to which MorphoSys directed the Examiner, ¶¶ 0136-0138, describe only the results shown in Figure 7; these same paragraphs appear in each Patent-in-Suit as the “Summary and Conclusions” of Example 6, which is titled “Epitope Mapping.”) MorphoSys patent attorney Paul Wiegel also attended a telephonic interview during which the Examiner and MorphoSys’s representatives discussed epitopes for then-pending claims 100 and 101, and compared these claimed epitopes with those in the prior art. *See* ’746 Patent file history, Oct. 14, 2011 Applicant-Initiated Interview Summary at 2. (Then-pending claim 101 is directed to epitopes comprising 44-66, **82-94**, 142-154, 148-164, **158-170**, or 192-206 of CD38, and includes specifically recited regions corresponding to the Figure 7 epitope of MOR03080.)

206. During prosecution of the '061 Patent, MorphoSys continued to tie claims explicitly to the epitopes identified in Figure 7, particularly MOR03080. For example, MorphoSys patent attorney Paul Wiegel signed and submitted an Amendment on June 17, 2015, again including claims based entirely and exclusively on the purported MOR03080 epitope shown in Figure 7 (*see, e.g.*, then-pending claim 30, directed to binding “an epitope of CD38 that contains one or more amino acid residues within **82-94** and **158-170**” of CD38). *See* '061 Patent file history, June 17, 2015 Response after Final Rejection at 2 (containing claim amendments).

In this Amendment, Mr. Wiegel stated that “the Examiner acknowledged that the specification provides support for the epitopes recited in claims 28-31.” ’061 Patent file history, June 17, 2015 Response after Final Rejection at 5. (The Examiner had indeed done so in an earlier Office Action, relying exclusively and explicitly on Figure 7 for support for this conclusion. *See* ’061 Patent file history, Apr. 20, 2015 Final Rejection at 4-6.)

207. Likewise during prosecution of the ’590 Patent, MorphoSys again sought claims directed to the MOR03080 epitope regions 82-94 and 158-170. First, Mr. Wiegel signed and submitted a Dec. 4, 2015 preliminary amendment, in which MorphoSys sought claim 85 (including residues **82-94** and **158-170** of CD38), claim 109 (directed to an antibody “that binds to a CD38 peptide consisting of amino acid residues **82-94** of CD38”), and claim 110 (directed to an antibody that “binds to a CD38 peptide consisting of amino acid residues **158-170** of CD38), all of which are based on the Figure 7 epitope for MOR03080. *See* ’590 Patent file history, Dec. 4, 2015 Preliminary Amendment at 15. Next, in a Feb. 4, 2016 amendment again signed and submitted by Mr. Wiegel, MorphoSys sought claim 115 (including residues **82-94** and **158-170** of CD38), claim 140 (directed to an antibody “that binds to a CD38 peptide of amino acid residues **82-94** of CD38”), and claim 141 (directed to an antibody that “binds to a CD38 peptide of amino acid residues **158-170** of CD38). *See* ’590 Patent file history, Feb. 4, 2016 Preliminary Amendment at 2. MorphoSys and Mr. Wiegel again pointed the Examiner to “Figure 7 and paragraph [0146]” of the specification as support for its claims to antibodies binding to “CQSVWDAFKGAFI” and “TWCGEFNTSKINY” (positions **82-94** and **158-170** of CD38, which correspond to the epitope shown in Figure 7 for MOR03080). *See* ’590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 15.

208. During prosecution, MorphoSys also relied on the epitopes disclosed in Figure 7 to distinguish its claims over the prior art. MorphoSys consistently characterized the prior art as disclosing only anti-CD38 antibodies that bind epitopes in the C-terminal region of CD38. For example, the shared specification of the '746 and '590 Patents states that all known anti-CD38 antibodies “seem to exclusively recognize epitopes (amino acid residues 220 to 300) located in the C-terminal part of CD38,” and that “[n]o antibodies are known so far that are specific for epitopes in the N-terminal part of CD38.” During prosecution of the '746 Patent, MorphoSys distinguished its pending claims from the prior art Logtenberg “UM16” antibody because that prior art antibody competed with OKT10, while “[t]he epitope of the OKT10 antibody has been mapped to residues 280-298 at the carboxyl terminus of the 300 residue CD38 molecule.” *See* '746 Patent file history, Apr. 8, 2011 Response to Restriction/Election Requirement at 10-11. Mr. Wiegel participated in an Examiner Interview in which he and the Examiner “[d]iscussed epitope of Logtenberg antibody in view of the epitope of the antibody in claims 100 and 101.” *See* '746 Patent file history, Oct. 14, 2011 Applicant-Initiated Interview Summary. And similarly during prosecution of the '590 Patent, MorphoSys again relied on the Figure 7 epitopes to distinguish its pending claims over the prior art, stating for example that “[a]pplicants respectfully submit that this epitope is novel and not taught or suggested by any of Antonelli, Ikehata or Mallone. Indeed, Applicants are not aware of any prior art that describes this amino acid region [192-206, taken from the Figure 7 epitope for MOR03079].” *See* '590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 26-27.

209. MorphoSys also explicitly argued during prosecution that its then-pending claims allegedly satisfied the written description requirement under *Noelle* solely because of the epitope regions described in Figure 7:

In the instant case, Applicants' claim 145 recites an antibody that binds to VSRRFAEAACDVVHV (SEQ ID NO: 38) [192-206 of CD38]. Applicants respectfully submit that Applicants have disclosed a fully characterized, novel antigen by its structure and, under Noelle, 'the applicant can then claim an antibody by its binding affinity to that described antigen.' Id. at 1349. Indeed, Applicants respectfully assert that the specification structurally and functionally describes the specifically claimed binding region, which was not known prior to Applicants' discovery. As such, the novel amino acid sequence recited in Applicants' claim constitutes a 'fully characterized' and to its knowledge 'novel antigen.' Accordingly, the instant claims fall squarely within the four corners of Noelle and a finding that the instant claims fully comply with the written description is required.

See '590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 19-20.

210. MorphoSys further based its written description argument on its alleged possession of antibodies that bind to the epitopes shown in Figure 7, stating for example that "[i]n addition, Applicants have actually reduced to practice the claimed anti-CD38 antibodies that bind to never-before bound regions of that protein, including the amino acid region of VSRRFAEAACDVVHV (SEQ ID NO: 38). So not only did Applicant fully disclose the novel antigens, Applicant generated the claimed antibodies. Therefore the person of skill in the art would appreciate that Applicant was in actual possession of the claimed antibodies." *See id.* at 21.

211. Thus, throughout prosecution and within the specifications of the Patents-in-Suit, MorphoSys pointed consistently and unequivocally only to Figure 7 to support its claims involving antibody epitopes on CD38. MorphoSys also explicitly relied on these Figure 7 epitopes during prosecution to distinguish its claims over the prior art, and to argue adequate written description. More specifically, MorphoSys repeatedly sought and obtained claims to antibodies that bound within the regions 82-94 and 158-170 based solely on the Figure 7 data for MOR03080. And MorphoSys did so knowing that the Figure 7 epitope data was at best unreliable—if not outright false—and concealed that fact from the Patent Office.

Deficiencies and Deception with Respect to Figure 7

212. Despite having based its entire patenting strategy on the alleged identification of a series of antibody epitopes to CD38, MorphoSys knew from the time it filed its first patent application that its alleged identification of epitopes rested on an untenable foundation. As detailed below, by late 2006 MorphoSys held in hand data specifically contradicting its Figure 7 binding epitopes. Nonetheless, MorphoSys never updated or corrected its initial reporting of data to the Patent Office, and instead persisted for many years of additional prosecution—indeed it still maintains pending applications—to obtain the '746, '061, and '590 Patents-in-Suit, all based squarely on this same spurious data.

213. In seeking to patent its antibody development activities, MorphoSys faced several problems: Anti-CD38 antibodies were known in the prior art; CD38 was a known target for antibody therapy against multiple myeloma; and MorphoSys's own patent department had already identified competitor patents describing antibodies against CD38 and their use to treat multiple myeloma. Unable to assert that it was first to recognize CD38 as a target, first to make antibodies against CD38, or even first to develop potential antibody therapeutics, MorphoSys needed a way to distinguish its antibodies.

214. MorphoSys could have claimed the specific antibodies it developed and disclosed in the Patents-in-Suit (MOR03077, MOR03079, MOR03080, and MOR03100), but it knew those antibodies were unlikely ever to reach the clinic. MorphoSys gave up on MOR3100 within weeks of filing the first provisional applications from which the Patents-in-Suit claim priority, and although both MOR3079 and MOR3080 were for a time considered as potential leads in its "MOR202" project, they were ultimately found to be unacceptable. MorphoSys abandoned MOR03079, the initial "MOR202" lead candidate, in favor of MOR03080 by March 31, 2004,

see MSYS_00993906, and also selected two “backup” candidates: MOR03087 and MOR06347— completely different antibodies not disclosed in the Patents-in-Suit. *See* MSYS_00058356; MSYS_00108246. MorphoSys then abandoned MOR03080 by February 2008. *See* MSYS_00059640. MOR03087 became known as “MOR202,” and emerged as MorphoSys’s sole candidate for use in human clinical trials.

215. Lacking specific examples of antibodies that might actually be developed as human therapies, MorphoSys sought broad claims through which it could assert coverage of the countless varieties of antibodies that its competitors might in the future develop. In short, MorphoSys claimed antibodies by their ability to bind specific regions of CD38 (i.e., according to their epitope).

216. Figure 7 is the sole source of all epitope information in the Patents-in-Suit. Figure 7 is taken directly from a single peptide array experiment performed for MorphoSys by Jerini, an outside vendor. From the start, MorphoSys knew that this peptide array technique was potentially unreliable, particularly with respect to so-called “discontinuous” epitopes (non-contiguous binding sites). Dr. Michael Tesar (a named inventor on all three Patents-in-Suit) questioned how the vendor was able to distinguish certain positive and negative results, and ultimately overrode initial binding site categorizations by the vendor. After MorphoSys had revised Jerini’s report, it gave rise to Figure 7 of the Patents-in-Suit.

217. But later follow-up experiments by the same vendor, Jerini, contradicted Figure 7—revealing a totally different epitope prediction for MOR03080 and so also calling into question the validity of the entire initial experiment. The record shows that MorphoSys adopted these later results internally and used them without reservation in presentations and communications with senior management. MorphoSys even presented these results at

conferences and shared the data with third parties, including Celgene and [REDACTED] [REDACTED]—again underscoring its reliability. MorphoSys updated its own (and others’) understanding of MOR03080’s epitope, with one notable exception: The Patent Office was never told of the change. These later Jerini results were never reported to the Patent Office, despite being available during prosecution and relied upon heavily and without qualification by MorphoSys.

218. *Jerini PepSpot Epitope Mapping Report #3571*: MorphoSys contracted an outside laboratory, Jerini Peptide Technologies (“Jerini” or “JPT”), to conduct epitope mapping using a peptide array technique called “PepSpot.” This involved creating a series of overlapping 13-mer peptides that together spanned the sequence of CD38 protein, arraying these peptides on a cellulose membrane, and evaluating the ability of MorphoSys’s anti-CD38 antibodies to bind to each individual peptide (i.e., assorted individual 13 amino acid regions taken from CD38 sequence).

219. Jerini provided MorphoSys with advance results of this assay on August 21, 2003. Ex. 1101. On September 9, 2003, Dr. Tesar contacted Jerini disputing the identification of certain epitopes and raising questions about the appropriate signal strength threshold for calling epitope binding regions. *See* Ex. 1102 (discussing MOR03079: “Based upon the signal strength, I would also classify the peptide #77 as ‘significantly weaker.’ What is the threshold, and when does a signal become positive? Can you recognize the exact epitope using this analysis[?],” and discussing MOR03080: “why are the peptides #18, #22, #50, or #61, for example, not also mentioned as weakly reacting—they are at least a bit over the background (at least 3 to 5-fold)? What is the threshold for a positive signal here?”). Dr. Tesar further asked Jerini to submit the next report as a Word document so that MorphoSys “can enter the improvements mentioned”

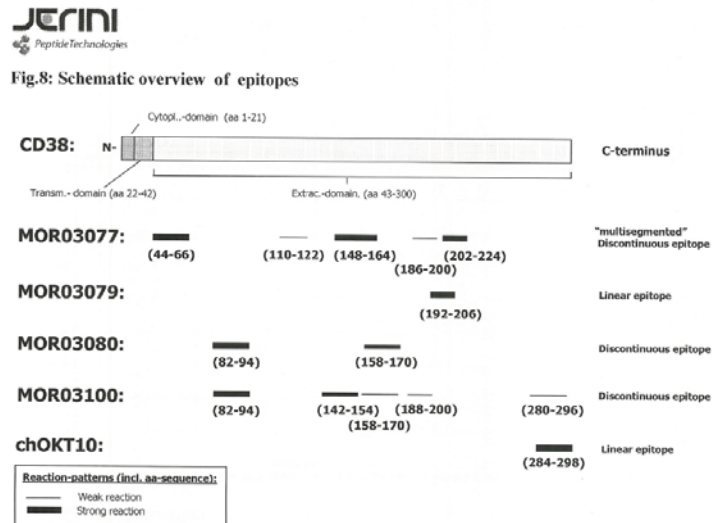
before sending Jerini a final version for signature. *Id.* On October 9, 2003, Jerini provided a report with new data directed to MOR03077, and as instructed, the report was unsigned in a Word document (“Jerini Report 3571”). Ex. 1010. During the ensuing weeks, MorphoSys scientists requested several changes to Jerini Report 3571, including reclassifying some epitope calls for MOR03079 as background noise. Exs. 1003, 1003a. On October 28, 2003, MorphoSys emailed Jerini stating that “we would like to include a few more corrections (added in correction mode) in the final report” and asking Jerini to “please excuse the constant corrections from our side.” Ex. 1105; *see also* Tesar Dep. Tr. at 209:4-14. MorphoSys noted that “[d]ue to the additional insertions, the page with your signature has been bumped onto a new page—the text can probably still be tweaked so that the signature is back on the preceding page.” Ex. 1105.

220. In its final form on October 29, 2003, as modified by MorphoSys, Jerini Report 3571 stated, *inter alia*, that MOR03080 bound to peptides corresponding to regions **82-94** and **158-170** of CD38 protein, whereas MOR03079 bound to peptides corresponding to amino acids **192-206** of CD38. *See* Ex. 1106. Jerini Report 3571 also stated that “[t]he epitopes for MOR03080 and MOR03100 can clearly be considered as discontinuous,” whereas MOR03077 “can be described as a multisegmented discontinuous epitope.” *Id.* at 5. Jerini Report 3571 also stated that “for a more precise epitope definition and determination of key amino acids (main antigen-antibody interaction sites) a shortening of peptides VSRRAEAACDVVHV and FLQCVKNPEDSSCTS and an alanine-scan of both should be envisaged.” *Id.* Neither a peptide shortening nor an alanine scan were performed in Jerini Report 3571.

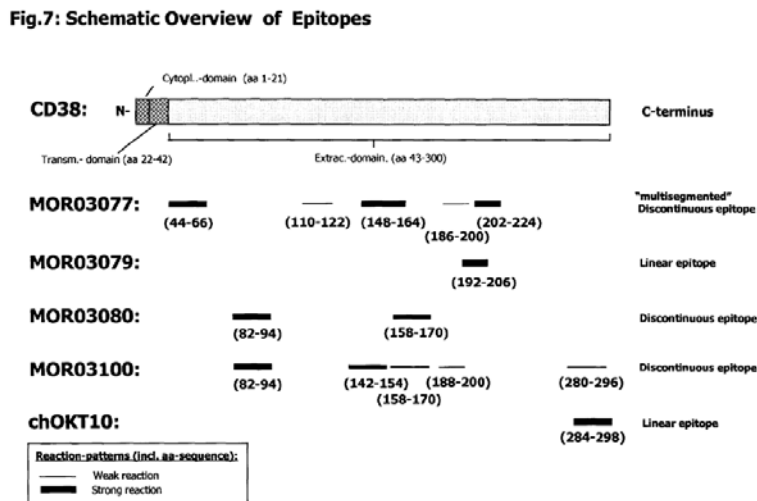
221. MorphoSys submitted Figure 8 of Jerini Report 3571, complete with its epitope designations for the four MorphoSys antibodies, directly and without modification to the Patent

Office, where it now appears as “Figure 7” of the Patents-in-Suit. *See also* Tesar Dep. Tr. at 232:3-233:3 (confirming that Fig. 7 is based on Jerini 3571).

222. Compare the figure as it appears in Jerini Report 3571 (Ex. 1106 Fig. 8 at 16):



with Figure 7 of the Patents-in-Suit:



223. *Subsequent Jerini PepSpot Epitope Mapping: Contradictory Results for MOR03080.* In the following year, 2006, MorphoSys again contracted Jerini to conduct epitope mapping on a different set of anti-CD38 antibodies (including MOR03087, today known as “MOR202,” MorphoSys’s current clinical lead candidate). MorphoSys included MOR03080

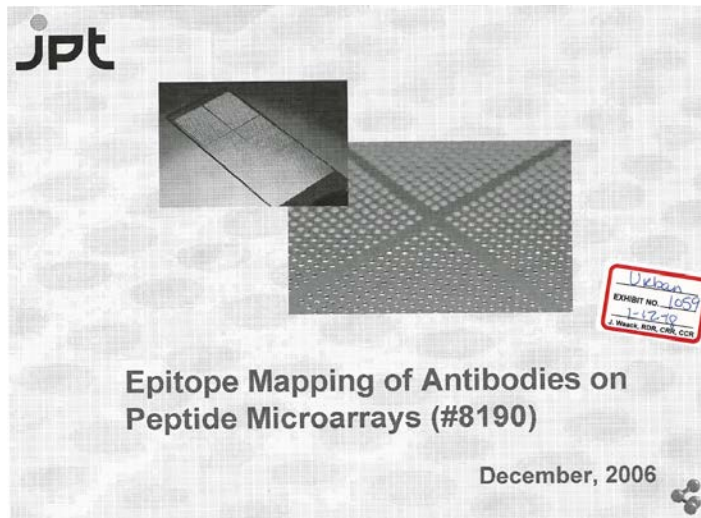
alongside these new antibodies as a control. MorphoSys then used this follow-up testing of MOR03080 internally and without reservation to update the predicted epitopes of MOR03080, as well as to show the epitopes for its clinical lead candidate MOR03087, but concealed it from the Patent Office.

224. *Jerini PepSpot Epitope Mapping Report #8190 (Nov. 2006)*. First, Jerini again performed its PepSpot analysis using a cellulose membrane as solid support. On or about November 30, 2006, Jerini issued a report on this testing (“Jerini Report 8190”). *See* Ex. 1057. Despite the experiment being repeated with the same antibody (MOR03080) and the same membranes and secondary antibodies, Jerini was unable to recover usable data and this experiment failed: Jerini reported that the data could not be analyzed due to excessive background noise, specifically because of interactions between the secondary detection antibody and the arrays themselves. Jerini Report 8190 ultimately stated that “[n]one of the mapping experiments yielded in [sic] detectable binding signals on the peptide array. Due to the high number of false positive signals observed in the control experiments, no reliable information could be obtained from these experiments.” *Id.* at 19. As such, from this study MorphoSys did not obtain epitope information for its ultimate clinical lead candidate (MOR03087), and also was unable to confirm the earlier MOR03080 Jerini predicted epitope (82-94 and 158-170) as reported in Figure 7 of the Patents-in-Suit.

225. MorphoSys internal communications reveal that its scientists were aware of the initial Jerini Report 8190 results no later than December 1, 2006, when Thomas Ast of Jerini emailed the report as an attachment, and Dr. Tesar emailed others at MorphoSys to discuss the results and next steps, stating that “Jerini is now going to try alternatives (glass-slides, direct labelling) in order to get it to work.” Ex. 1058.

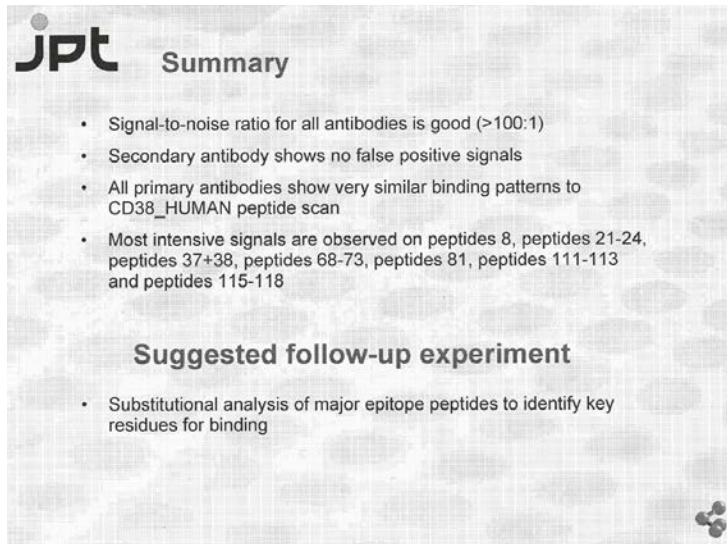
226. Dr. Tesar testified at deposition that he did not communicate this failed Jerini Report 8190 to the Patent Office because it had a “technical issue” and it was a “decision for the patent attorneys to – to decide whether these should be sent or not.” Tesar Dep. Tr. at 267:23-269:23.

227. *Jerini Revised Epitope Mapping Report #8190 on Glass Slides (Dec. 2006).* Shortly thereafter, MorphoSys agreed that Jerini should redo the failed epitope mapping analysis reported in Jerini Report 8190 (*see* Steidl Dep. Tr. at 251:6-16; Ex. 1173) —but this time, the experiment was to be performed on a glass surface and with three replicates (using the mean signal intensities from three identical subarrays; *see* Ex. 1059 at slide 5) as well as additional controls (*see id.* at slide 4). This glass-slide technique is another peptide array assay technique that Jerini offers, very similar to PepSpot. Again, MOR03080 was included, as was MOR03087.



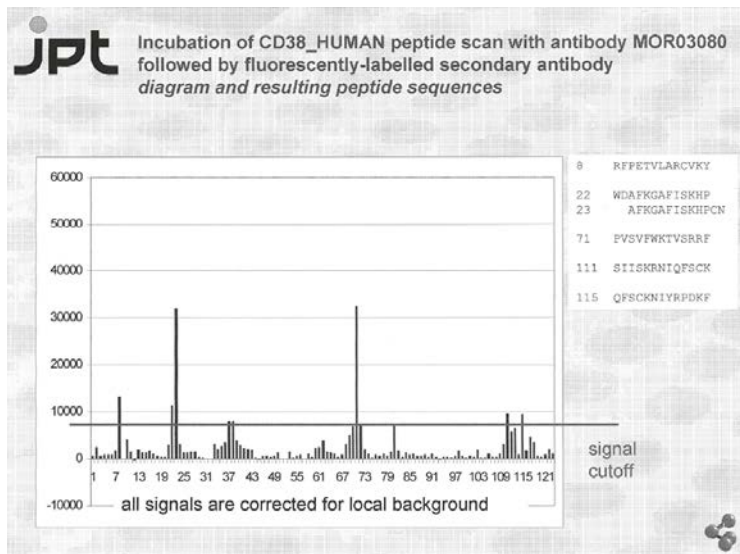
Ex. 1059 at slide 1.

228. On December 1, 2006, Jerini provided the new results in a presentation (“Jerini Replotope Report”), reporting that “[s]ignal to noise ratio for all antibodies is good (>100:1),” and that the “[s]econdary antibody shows no false positive signals”—i.e., that the problems that plagued the initial, failed Jerini Report 8190 had been corrected. Ex. 1059.



Id. at slide 21.

229. This Jerini Replitope Report, which was performed in triplicate on an array technology that Jerini still offers today, reported for MOR03080 that peptides 8, 22-23, 37-38, 71, 111, and 115 were above the “signal cutoff,” which corresponds to an epitope prediction of amino acid positions **58-70, 86-100, 116-130, 184-196, 264-284** of CD38.

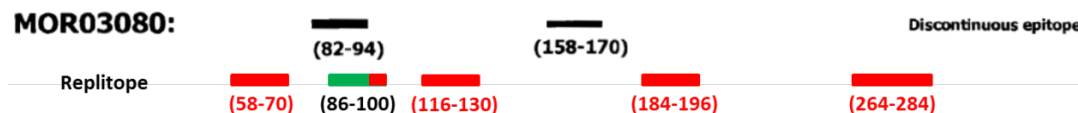


Ex. 1059 at slide 9.

230. The Jerini Replitope Report also reported the epitope for MOR03087 as peptides 8, 22-24, 37-38, 68-73, 81, 111-112, and 115, which corresponds to amino acid positions **58-70, 86-102, 116-130, 178-200, 204-216, 264-284** of CD38. *Id.* at slide 11.

231. This result—which was performed in triplicate by Jerini with “good” signal to noise ratio (>100:1) and no secondary antibody false positives—was declared by Jerini to be “evaluable” (*see* Steidl Dep. Tr. at 251:17-252:1; Ex. 1173) and reveals not only the epitope for MOR03087 (the clinical lead), but also that MOR03080 binds to a completely different epitope than initially believed, directly contradicting the results in the earlier Jerini Report 3571, as well as in Figure 7 of the Patents-in-Suit.

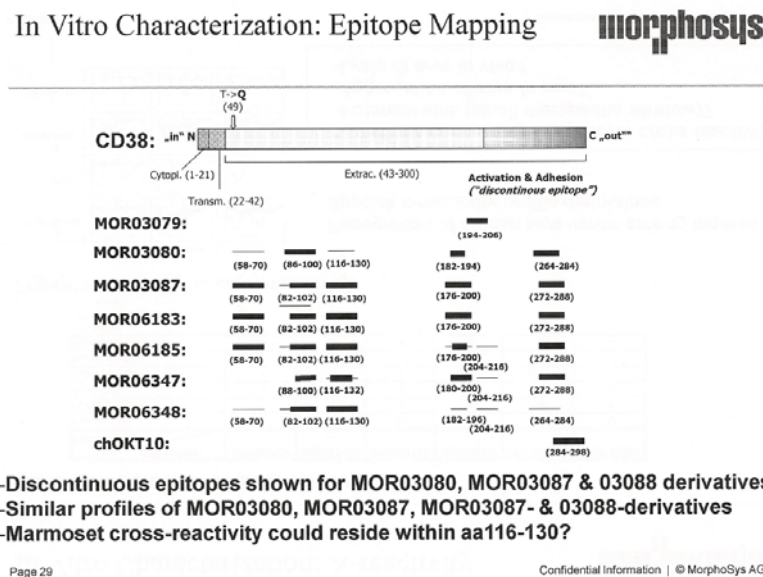
232. Below is a comparison of the MOR03080 data from Figure 7 with the Jerini Replitope Report data for MOR03080 (shown in color). The disclosed Figure 7 epitope for MOR03080, based on Jerini Report 3571, covers 26 total amino acids (positions **82-94** and **158-170** of CD38). The MOR03080 epitope as reported in the later Jerini Replitope Report is *three times longer*, covering 77 amino acids, only eight of which (10%) overlap (shown in green below). The remaining 90% of the MOR03080 epitope as reported by the Jerini Replitope Report (69 non-overlapping amino acids) is shown in red below, and directly contradicts the Figure 7 data in the Patents-in-Suit. As can be seen below, these later (withheld) results were effectively the opposite of the original results, which formed the basis for MorphoSys’s patents:



233. MorphoSys was well aware of this discrepancy. After receiving the Jerini Replitope Report, Dr. Tesar produced a draft slide deck incorporating both sets of MOR03080 results on different slides. *See* MSYS_00079373. Dr. Tesar also incorporated the new Replitope

findings in early 2007 into a PowerPoint presentation that was provided to senior management and presented to the entire scientific staff, without qualification or caveat. Within MorphoSys, the new Jerini Replitope Report results for MOR03080 simply replaced the earlier results (as submitted in Figure 7)—these earlier results are not included anywhere in, for example, this 2007 presentation. In other words, these later “Replitope” results were treated as the correct, updated data, which superseded the prior results reported in the patent application. Yet, putting their interest in patent issuance above their duty of candor to the Patent Office, neither Dr. Tesar nor anyone else at MorphoSys ever informed the Patent Office or updated Figure 7 during the following years of prosecution.

234. Below is a slide from Dr. Tesar’s 2007 presentation, prepared approximately two months after he received the Jerini Replitope Report, which clearly incorporates and presents the new epitope results for MOR03080:



Ex. 1123 at slide 29.

235. Despite attempts during deposition by MorphoSys witnesses to downplay the reliability of the Jerini Replitope Report, contemporaneous communications and presentations

demonstrate that MorphoSys in fact deemed the revised epitope results to be reliable. For example, as detailed more fully below, MorphoSys relied on the Jerini Replitope Report when reporting epitope data of its MOR03087 clinical lead (*see, e.g.*, MSYS_00064221 at slide 26), including when comparing MOR03087 to its Sanofi and Genmab competitors (*see, e.g.*, MSYS_00064221 at slide 84). And in May 2013, third-party collaborator Celgene asked for “a summary of the results of the MOR3080 epitope mapping.” MSYS_00575470. MorphoSys patent attorney Paul Wiegel responded, stating “[p]lease find attached the summary of the MOR3080 epitope mapping,” and attached only the Jerini Replitope Report, in its entirety:

Sender: Paul Wiegel </O=MORPHOSYS_GMBH/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=PAULW>
Sent: Wednesday, May 29, 2013 11:05:45 AM
Recipient: Carla Kuhner <ckuhner@celgene.com>
Cc: Konstantin Petropoulos <Konstantin.Petropoulos@morphosys.com>; Ariel Jasie <ajasie@celgene.com>
Subject: RE: MOR3080 epitope MAP
Attachments: Antibody_Profiling_Tesar-8190_final.pdf

Dear Carla

Thanks for your patience. Please find attached the summary of the MOR3080 epitope mapping. Please let me know if you would like to discuss.

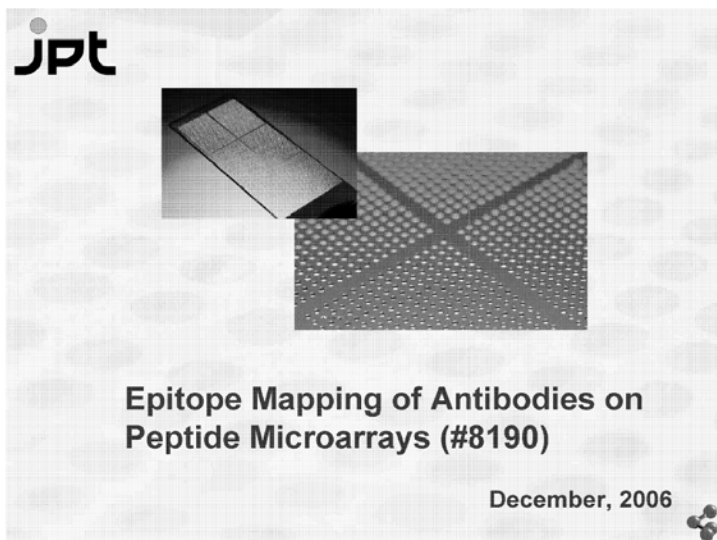
Kind regards,

Paul

Paul F. Wiegel, J.D., LL.M.
Associate Director, Intellectual Property
U.S. Patent Attorney

MorphoSys AG
Lena-Christ-Str. 48
D-82152 Planegg-Martinsried

MSYS_00575470.



MSYS_00575472.

236. In sum, the results of the Jerini Replitope Report contradict the MOR03080 epitope results shown in the earlier Jerini Report 3571 and patent Figure 7. These later results, by the same vendor and testing the same antibody, completely undermine MorphoSys's claim to an antibody that binds to at least positions 82-94 and 158-170 of CD38. *See* '746 Patent asserted claim 15 ("specifically binds within amino acids 44-66, **82-94**, 142-154, 148- 164, **158-170**, or 192-206 of CD38"); '746 Patent claim 19 ("specifically binds within amino acids **82-94 or 158-170** of CD38"); '746 Patent claim 20 ("specifically binds within amino acids **82-94 or 158-170** of CD38"); '061 Patent claim 3 ("binds an epitope of CD38 that contains one or more amino acid residues within **82-94 and 158-170**"); and '061 Patent claims 5 through 15 (multiple dependent on claim 3). The Jerini Replitope Results also undermine all other Figure 7 results as well, and all epitope claims that depend on Figure 7.

237. In spite of this, only the results of Jerini Report #3571 were ever communicated to the Patent Office.

Further Concealed Evidence of the Unreliability of the Figure 7 Epitopes

238. Well before the Jerini Replitope Report arrived in December 2006, MorphoSys already had ample reason to know that its Figure 7 epitope results were unreliable.

239. *Shortcomings of Jerini PepSpot Analysis and Discontinuous Epitopes:* MorphoSys and Dr. Tesar knew that peptide array techniques (such as the PepSpot assay of Jerini Report 3571, underlying Figure 7) were particularly unreliable when faced with discontinuous epitopes—which Figure 7 plainly states that three of the four disclosed antibodies possess. (Jerini Report 3571 states that "[t]he epitopes for MOR03080 and MOR03100 can

clearly be considered as discontinuous,” while MOR03077 “can be described as a multisegmented discontinuous epitope.” Ex. 1106 at 5.)

240. In July 2003, Dr. Tesar expressed doubts that a peptide array approach would generate usable data for the four MorphoSys anti-CD38 antibodies at all (“we have to expect that none of the antibodies will react with the overlapping peptides”), because the antibodies had conformational epitopes:

On a whole, we would gladly characterize 4 antibodies - but we have to expect that none of the antibodies will react with the overlapping peptides because there is a

conformational epitope (according to Jerini only 50% chance of capturing it with this “linear” technique...). It is my opinion that we should actually connect a western blot assay in advance so that we

Ex. 1051; *see also* Tesar Dep. Tr. at 163:7-13 (discussing Jerini as “overlapping peptides”).

241. Dr. Tesar also stated in an August 18, 2011 email to Dr. Stefan Steidl, then Director of Pharmacology at MorphoSys, that “[d]iscontinuing epitopes are certainly much more difficult to determine than linear ones.” Ex. 1173.

242. Yet when shown his 2003 statement at deposition, Dr. Tesar testified “My God. How did I come to that judgment? I don’t get the rationale behind this sentence anymore. I’m missing details, so I don’t know how I came up to this conclusion.” Tesar Dep. Tr. at 165:19-166:7.

243. At deposition, Dr. Steidl agreed that for “some” antibodies, “one of the drawbacks of this type of experiment is that it’s less reliable with respect to discontinuous epitopes than it is for linear epitopes.” Steidl Dep. Tr. at 174:24-175:14.

244. ***Other Approaches to Identify Epitopes:*** Apart from the Jerini peptide array mapping studies, MorphoSys also undertook a variety of other experimental approaches to

identify the epitopes of the four antibodies disclosed in the Patents-in-Suit—none of which gave results consistent with Figure 7, and none of which were reported to the Patent Office.

245. *Fc ELISA Mapping:* In September 2002, MorphoSys conducted ELISA assays with Fc-fusion proteins bearing various regions of CD38 protein. At deposition, Dr. Tesar testified that “ELISA is one way of looking at epitopes. There are many others out [sic], but it’s a good start, as I said, to look at ELISA.” Tesar Dep. Tr. at 93:6-16.

246. Using the ELISA technique, MorphoSys discovered and reported in its presentations that every one of its anti-human CD38 antibody Fabs—including the four ultimately disclosed in the Patents-in-Suit—recognized “exclusively epitope **aa 273-300**” in the prior art C-terminal region of CD38. Ex. 1050 at 12.

247. On July 15, 2003, Dr. Tesar stated that, with the help of different EST-constructs (covering regions 45-213; 45-273 and 45-300 of CD38), he had “already establish[ed]” that MorphoSys’s four anti-CD38 antibodies react exclusively with the full-length construct 45-300. Ex. 1051. Dr. Tesar confirmed this was a strong indication that, like the prior art anti-CD38 antibodies, the epitope of MorphoSys’s four anti-CD38 antibodies lie only in the C-terminal range:

If necessary, we can limit ourselves to the amino acids 200-300 because all of the previously mapped out epitopes of published anti-CD38 antibodies fall in this range. With the help of different EST-constructs (aa 45-213; 45-273 and aa 45-300) we were able to already establish that our antibodies react exclusively with the construct aa 45-300, - this is a strong indication (but unfortunately not certain!) that the epitope of our own CD38 antibody also lie only in this C-terminal range. Maybe we will still get a clue about the epitope from our collaboration with Prof. Malavasi (he is currently conducting competition studies with the already mapped antibodies and our 4 candidates) ... otherwise, I would recommend getting started with the complete length (aa45-300).

248. At deposition, Dr. Tesar confirmed this conclusion in his 2003 email, stating that the antibodies “were all binding in the C terminal range” and that “[t]his conclusion is correct.” Tesar Dep. Tr. at 168:14-169:2.

249. These Fc ELISA results directly conflict with Jerini Report 3571 and Figure 7 of the Patents-in-Suit, and were not reported to the Patent Office during prosecution of the '746 Patent.

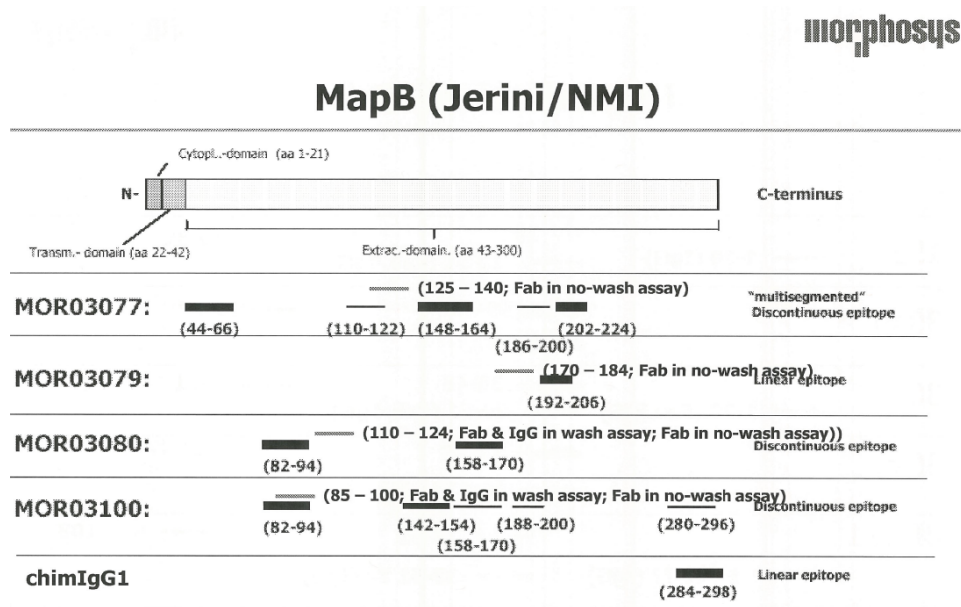
250. ***Dr. Malavasi's Competitive Binding:*** In or around September 2003, MorphoSys employees, including Drs. Tesar and Steidl, enlisted Dr. Fabio Malavasi of the University of Torino to perform competition assays with the four antibodies disclosed in the Patents-in-Suit. *See* Ex. 1052. In these studies, multiple antibodies compete to bind a given antigen; when antibodies compete with one another for binding, this can mean that they share the same epitope. *See* Urban Dep. Tr. at 282:9-18. Dr. Tesar testified that Dr. Malavasi was "an expert" in the CD38 field. Tesar Dep. Tr. at 72:1-17.

251. These experiments revealed that all four MorphoSys antibodies competed with one another; that MOR03080 and prior-art chOKT10 competed with one another 70%; and that MOR03079 competed 100% with several known prior art antibodies, including IB4, IB6, HB7, AT13/5, and AT2. *See* Ex. 1052. At deposition, Dr. Tesar testified that the 70% competition between MOR03080 and OKT10 might merit including another epitope call for MOR03080: "So it says, '70 percent.' We have to go really back in the reports to see whether it makes sense or not to – to add another bar." Tesar Dep. Tr. at 222:11-14. Not least in terms of competition between MOR03080 and OKT10, these results directly conflict with Jerini Report 3571 and Figure 7 of the Patents-in-Suit, and were never reported to the Patent Office.

252. ***NMI "MapART" Peptide Array Mapping Results:*** In January 2004, MorphoSys engaged the Natural and Medical Sciences Institute at the University of Tuebingen ("NMI") to perform epitope mapping tests to determine the epitopes of the four disclosed antibodies in the Patents-in-Suit (MOR03077, MOR03079, MOR03080, and MOR03100) using NMI's peptide

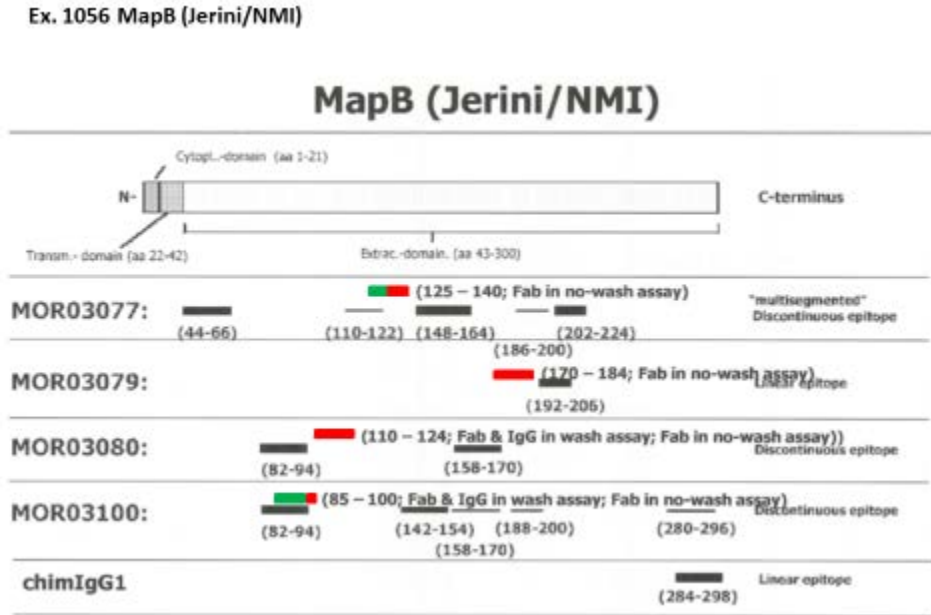
array technique, called MapART. These NMI peptide array results were reported in a MorphoSys figure titled “MapB (Jerini/NMI)” which overlaid the Jerini Report 3571 peptide array results reported in the patents at Figure 7 with the NMI peptide array results. Ex. 1056.

253. The results were contradictory. For example, NMI reported MOR03079 binding to aa 170-184, which directly contradicted its predicted epitope of 192-206 in Jerini Report 3571 and Figure 7; and NMI also reported MOR03080 binding to aa 110-124, as opposed to its Jerini 3571 Report / Figure 7 epitope of positions 82-94 and 158-170, as shown in the MorphoSys figure below:



Ex. 1056.

254. The same MorphoSys figure is reproduced below with the contradictory NMI MapB epitope results highlighted in color (green for overlapping, red for contradictory):



Ex. 1056 (color highlights added to show NMI data).

255. These NMI MapART results directly conflict with Jerini Report 3571 and Figure 7 of the Patents-in-Suit, as confirmed by Dr. Ralf Ostendorp, Head of Protein Sciences at MorphoSys, at deposition: “So as I said, the two lines marked with peptide mapping Jerini and peptide mapping NMI do not represent any overlaps of the marked regions.” Ostendorp Dep. Tr. at 317:1-13 (discussing MOR03077). MorphoSys also withheld these results from the Patent Office.

256. **NMI EST Epitope Mapping Results:** In June 2005, MorphoSys engaged NMI to employ another approach for epitope mapping of the four disclosed antibodies in the Patents-in-Suit, namely assaying their binding to expressed sequence tags (“ESTs”) of various portions of the CD38 amino acid sequence. On June 22, 2005, NMI generated a report of this EST-based epitope mapping experiment. See Ex. 1055. NMI reported “strong and significant interactions” for eight of 13 antibodies tested. Based on its interaction with two particular ESTs, the “minimal epitope region” for MOR03080 was reported to be amino acids 164-300 of CD38; no interaction

with ESTs covering the 82-94 region was found. Dr. Ostendorp confirmed this finding at deposition, stating that “the table and the report states that the deduced minimal region for MOR03080 would be amino acids **164-300**.” Ostendorp Dep. Tr. at 288:23-289:17.

257. The NMI EST report explicitly compares its results to Jerini Report 3571 (the basis for Figure 7), stating that “[t]he results of epitope mapping on peptide level by Jerini AG and EST mapping approach by NMI are rather contradictory.”

5.6. Comparison with data from commercial contractor

Tables S2 (Supplementary data) is the attempt to summarise all of the NMI data for antigen B (EST mappings and peptide mappings) and to compare them with the data that were generated by Jerini AG, Berlin. However, this table has to be taken with caution since interpretation of data is not always clear without ambiguity.

Five antibodies (IgG molecules) had been analysed with epitope mappings by Jerini AG: MOR03077, MOR03079, MOR03080, MOR03100, and chimOKT10. The results of epitope mapping on peptide level by Jerini AG and EST mapping approach by NMI are rather contradictory.

Ex. 1055 at 30.

258. A supplementary table in the NMI report explicitly compares the results of the Jerini 3571 Report peptide mapping (patent Figure 7) with NMI EST mapping and NMI MapART peptide mapping. The predicted epitope results for antibody MOR03080 differ between all three approaches.

No.	Name	NMI EST mapping Wash and no-wash assays	NMI EST mapping Capture assays	NMI MapART MapB Peptide mapping	Jerini AG Peptide mapping
ab 1	MOR03077	no significant signal	no significant signal	no significant signal	not tested
ab 2	MOR03079	no significant signal	no significant signal	no significant signal	not tested
ab 3	MOR03080	139-300, 164-300	no significant signal	108-122 (1 peptide)	not tested
ab 4	MOR03100	139-300, 164-300, 232-282, (247-300)	139-300, 164-300, 232-282, (247-300)	84-98 (1 peptide)	not tested
ab 5	MOR03077	no significant signal	no significant signal	116-138, 176-198, 260-290 (3-5 peptides consensus each)	multisegmented discont: 44-68, 148-164, 202-224
ab 6	MOR03079	no significant signal	high background with all ESTs	high background with all peptides	linear: 194-204 (3 peptides consensus)
ab 7	MOR03080	139-300, 164-300	no significant signal	108-122 (1 peptide)	discont: 82-94, 158-170 (1 peptide each)
ab 8	MOR03100	139-300, 164-300, 232-282, (247-300)	139-300, 164-300, 232-282	several disperse signals	discont: 82-94, 142-154, 280-292 (pep each) (weak: 158-170, 176-186, 188-200 pep each)
ab 9	chimigG1	139-300, 164-300, (247-300)	no significant signal	several disperse signals	linear: 264-296 (2 peptides consensus)
ab 10	OKT10	no significant signal	no significant signal	not tested	not tested
ab 11	IB4	139-300, 164-300	139-300, 164-300	not tested	not tested
ab 12	HB7	139-300, 164-300	139-300, 164-300	not tested	not tested
ab 13	T16	139-300, 164-300	139-300, 164-300	not tested	not tested

Table S2: Comparison of results from NMI EST mapping and peptide mapping with results from Jerini AG. Numbers indicate amino acid positions. Weak and/or uncertain interactions are printed in parentheses. Note that ab10, ab11, ab12, and ab13 were not tested in peptide mappings so far, since they were provided recently. **Important note:** Not all of the peptide interactions that were detected by Jerini AG are shown in this table, only the strongest interactions (selection by NMI) were taken.

Ex. 1055 at 34 (highlighting added to show MOR03080 results).

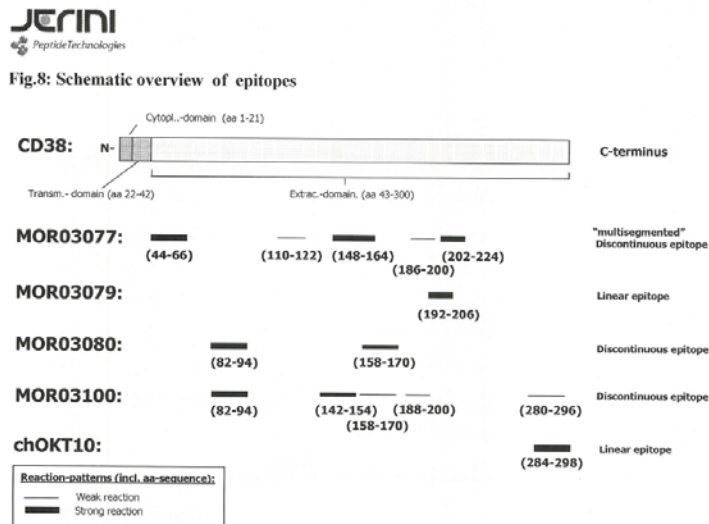
259. MorphoSys also withheld these results from the Patent Office.

260. In sum, even before the Jerini Replitope Report revealed contradictory epitope mapping data for MOR03080, MorphoSys already possessed ample epitope mapping data that directly conflicted with Jerini Report 3571 and Figure 7 of the Patents-in-Suit—neither this data, nor the Jerini Replitope Report, was ever submitted to the Patent Office, and no attempt was made to update Figure 7 to reflect these discrepancies. This despite the fact that Figure 7 was the **sole support** for the epitope binding claims in the asserted MorphoSys patents.

Materiality of Contradictory Epitope Data

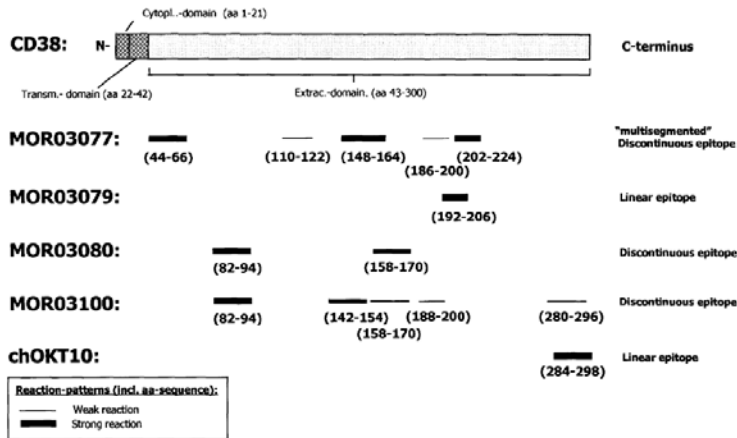
261. Dr. Tesar testified at deposition that the reason he was interested in knowing the epitopes for MorphoSys anti-CD38 antibodies was for patent applications. *See* Tesar Dep. Tr. at 147:16-148:5.

262. Figure 7 is an exact duplicate of a diagram in the Jerini 3571 Report. Compare the figure as it appears in Jerini Report 3571 (Ex. 1106 Fig. 8 at 16):



with Figure 7 of the Patents-in-Suit:

Fig.7: Schematic Overview of Epitopes



263. In submitting this figure to the Patent Office and during the many years of active prosecution that ensued, no modifications whatsoever were made to Figure 7 to account for the later, contradictory Jerini Replitope Report—which reported MOR03080 binding to a completely different epitope, shown in color below:



264. Similarly, no modifications were made to Figure 7 to account for any of the other contradictory results in MorphoSys's possession, including NMI MapART peptide array results, NMI EST results, Fc fusion ELISA results, or Prof. Malavasi's competitive binding experiments.

265. During prosecution of the '746 Patent, MorphoSys relied exclusively on Figure 7 and its results—taken entirely from the initial Jerini 3571 Report, and never revised in light of the later, contradictory Jerini Replitope results—as the sole written description support for its claimed epitope ranges. This repeated reliance and assertion of Fig. 7 as exemplary of the claimed epitopes constitutes not merely a withholding of material information but material

misrepresentation, without which the examiner would not have allowed the claims of the '746 Patent.

266. For example, on October 18, 2011—nearly five years after receiving the contradictory Jerini Replitope Report—MorphoSys submitted new '746 claims 142-148, directed to, *e.g.*, “[a]n isolated antibody or antibody fragment thereof containing an antigen-binding region... which specifically binds within amino acids **82-94** or **158-170** of CD38” (i.e., the original, unrevised epitope for MOR03080, directly contradicted by the Jerini Replitope Report). In its accompanying applicant remarks, MorphoSys directed the Examiner as follows: “Support for these claims can be found, for example, at Figure 7 and ¶¶ 0136-0138 of the published specification.” '746 Patent file history, Oct. 18, 2011 Response to Non-Final Rejection at 8. The paragraphs of the published specification (¶¶ 0136-0138) to which MorphoSys directed the Examiner repeat only those same Figure 7 results. Also in October 2011, Mr. Wiegel attended a telephonic interview during which the Examiner and MorphoSys’s representatives discussed epitopes for, *e.g.*, then-pending claim 101 (directed to epitopes comprising 44-66, **82-94**, 142-154, 148-164, **158-170**, or 192-206 of CD38) and compared these with prior art epitopes. *See* '746 Patent file history, Oct. 14, 2011 Applicant Initiated Interview Summary at 2.

267. During prosecution of the '061 Patent, MorphoSys continued to tie claims explicitly to the epitopes identified in Figure 7, particularly MOR03080, and to misrepresent Figure 7 as exemplifying the claims. For example, Mr. Wiegel signed and submitted an Amendment on June 17, 2015, again presenting claims based entirely and exclusively on the purported MOR03080 epitope shown in Figure 7 (*see, e.g.*, then-pending claim 30, directed to binding “an epitope of CD38 that contains one or more amino acid residues within **82-94** and **158-170**” of CD38). *See* '061 Patent file history, June 17, 2015 Response to Final Rejection at 2.

In this Amendment, Mr. Wiegel stated that “the Examiner acknowledged that the specification provides support for the epitopes recited in claims 28-31.” *Id.* at 5.

268. Likewise during prosecution of the '590 Patent, MorphoSys again sought claims directed to the MOR03080 epitope regions 82-94 and 158-170. First, Mr. Wiegel signed and submitted a Dec. 4, 2015 preliminary amendment, in which MorphoSys sought claim 85 (including residues **82-94** and **158-170** of CD38), claim 109 (directed to an antibody “that binds to a CD38 peptide consisting of amino acid residues **82-94** of CD38”), and claim 110 (directed to an antibody that “binds to a CD38 peptide consisting of amino acid residues **158-170** of CD38), all of which are based on the Figure 7 epitope for MOR03080. *See* '590 Patent file history, Dec. 4, 2015 Preliminary Amendment. Next, in a Feb. 4, 2016 amendment again signed and submitted by Mr. Wiegel, MorphoSys sought claim 115 (including residues **82-94** and **158-170** of CD38), claim 140 (directed to an antibody “that binds to a CD38 peptide of amino acid residues **82-94** of CD38”), and claim 141 (directed to an antibody that “binds to a CD38 peptide of amino acid residues **158-170** of CD38). *See* '590 Patent file history, Feb. 4, 2016 Preliminary Amendment. MorphoSys and Mr. Wiegel again pointed the Examiner to “Figure 7 and paragraph [0146]” of the specification as support for its claims to antibodies binding to “CQSVWDAFKGAFI” and “TWCGEFNTSKINY” (positions **82-94** and **158-170** of CD38, which correspond to the epitope shown in Figure 7 for MOR03080). *See* '590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 15. Alleging that Figure 7 supported the claims despite knowledge of contradictory results that undermine the accuracy of the entire figure amounts to a material misrepresentation.

269. Thus, although the '590 Patent as issued does not include claims drawn specifically to the MOR03080 epitope ranges 82-94 and 158-170, such claims were twice sought

during prosecution—and for these, MorphoSys directed the examiner to the same Figure 7 data for support. *See* '590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 15.

270. Moreover, the results MorphoSys withheld from the Patent Office not only directly contradict the MOR03080 epitope in Figure 7, but also demonstrate the unreliability of Figure 7 generally, and thus are material to the '590 Patent's issued claims as well. To prepare Figure 7, Jerini tested all four antibodies (MOR03077, MOR03079, MOR03080, and MOR03100) in the same experiment and under the same conditions, with their data collected and interpreted in the same way. (MOR03077 initially failed to provide usable signal, and had to be re-assessed using direct labeling of secondary antibody.) The Jerini Replitope Report laid bare the shortcomings of this initial Figure 7 approach: Jerini later re-tested MOR03080 and reported wholly contradictory epitope results. This later Jerini Replitope study was performed with “good” signal to noise ratio (>100:1) and no secondary antibody false positives, on an array platform Jerini still offers today. Unlike the Figure 7 study, the later Jerini Replitope study was done in triplicate. It was declared by Jerini to be “evaluable” (*see* Steidl Dep. Tr. at 251:17-252; Ex. 1173), by a “state of the art” company (*see* Tesar Dep. Tr. at 166:17-167:14 (“Jerini is state of the art to map epitopes”)) and its results—both for MOR03080 and for MOR03087, MorphoSys's ultimate clinical lead candidate—were used without reservation or caveat in company presentations circulated to senior management, shared with third-party collaborator Celgene, and included in other third-party presentations as accurate and authoritative.

271. Of the four antibodies disclosed in the Patents-in-Suit, only MOR03080 was later shown by Jerini to possess a different epitope—but MOR03080 was the only one of those four antibodies that Jerini actually tested again. By exposing shortcomings in the original data for the

only antibody that was re-tested, the Jerini Replitope Report also calls into question Figure 7 epitope results for antibodies MOR03077, MOR03079, and MOR03100.

272. Because the withheld data undermines Figure 7 altogether, and the claims of the '590 Patent draw their (alleged and misrepresented) support from Figure 7, the '590 Patent is unenforceable for inequitable conduct committed during prosecution of the '590 Patent and related applications. Furthermore, this inequitable conduct persisted and was not cured in any of the Patents-in-Suit. There are three requirements that a patentee must meet to cure inequitable conduct in a patent. The first requirement to be met by an applicant, aware of misrepresentation in the prosecution of his application and desiring to overcome it, is that he expressly advise the Patent Office of its existence, stating specifically wherein it resides. The second requirement is that, if the misrepresentation is of one or more facts, the Patent Office be advised what the actual facts are, the applicant making it clear that further examination in light thereof may be required if any Patent Office action has been based on the misrepresentation. Finally, on the basis of the new and factually accurate record, the applicant must establish patentability of the claimed subject matter. As detailed below, MorphoSys did none of these.

273. MorphoSys did nothing to cure the deficiencies of Figure 7 during prosecution of any Patent-in-Suit, including the '590 Patent which issued in fall 2017. Rather, it continued its pattern of withholding information and materially misrepresenting Figure 7 as an accurate representation of exemplified antibody epitopes. As discussed above, Jerini's initial inability to reproduce MOR03080's epitope results, and later reporting of reliable and entirely contradictory data for this antibody, thoroughly undermines the Figure 7 data for all antibodies—not just MOR03080. Although MorphoSys knew that the Jerini Replitope Report contradicted Figure 7 and undercut its validity, it nonetheless failed to advise the Patent Office of the Jerini Replitope

Report, its possession of other data contradicting its prior representation, or the unreliable epitope maps in Figure 7. MorphoSys never informed the Patent Office of any issue raised by the Jerini Replitope Report, let alone made the Patent Office aware that further examination might be required in light of it. MorphoSys thus did not establish patentability of the claims on a factually accurate record. MorphoSys withheld and misrepresented material information not just during prosecution of the '746 and '061 Patents but in the '590 Patent as well; its inequitable conduct was not remedied and infected all Patents-in-Suit.

274. Even in this litigation, MorphoSys's own legal arguments emphasize the materiality of Figure 7. In its claim construction briefing, MorphoSys argued that the term "specifically binds within" of the '746 Patent should be broadly construed and not limited to binding *only* within the amino acid regions identified in the claims. Again, the data MorphoSys withheld from the Patent Office not only directly contradicts the Figure 7 epitope for MOR03080, but also demonstrates the utter unreliability of Figure 7 generally and thus calls into question the epitope results for antibodies MOR03077, MOR03079, and MOR03100 as well. Yet MorphoSys relied on that very Figure 7 epitope mapping data to argue that because antibodies such as MOR03077 and MOR03100 bind both within the claimed region of 44-206 and also outside that region (i.e., at 207-224 for MOR03077 and 280-298 for MOR03100), MorphoSys was entitled to a broad construction of this claim term—without ever mentioning that the data for Figure 7 was unreliable or that it had in its possession data flatly contradicting the purported epitope of MOR03080. *See* D.I. 82, Dec. 27, 2016 Opening Brief ISO MorphoSys Claim Constructions of '746 Patent, at 14.

275. The Figure 7 results are the sole written description support for the MorphoSys epitope claims. Without it, there is no basis for the Patent Office to have issued these claims,

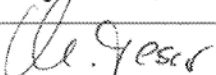
particularly claims based directly on the alleged binding site of MOR03080. In sum, the Patent Office would not have allowed claims directed to the epitopes shown in Figure 7 had MorphoSys actually made the Examiner aware of the Jerini Replitope Report or other contradictory results and admitted that Figure 7 did not actually exemplify the epitope of MOR03080.

276. And as described below, MorphoSys realized this, and deliberately withheld contradictory information with intent to deceive the Patent Office. In addition, Morphosys repeatedly, deliberately and with intent to deceive misrepresented the contents of Figure 7, conveying that it accurately portrayed the epitopes of antibodies that Morphosys had made despite knowing that, at the very least in the case of MOR3080, it did not.

Individuals with a Duty to Disclose Material Information to the Patent Office

277. Dr. Michael Tesar was the Associate Director of Research & Development at MorphoSys from 1998 to 2012 and was project lead of the anti-CD38 antibody project. Dr. Tesar is a named inventor of the '746, '061, and '590 Patents. Dr. Tesar signed an oath in connection with his inventorship, acknowledging his “duty to disclose to the Patent Office all information known ... to be material to patentability as defined in 37 CFR 1.56.”

I (we) hereby state that I (we) have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above. I (we) acknowledge the duty to disclose to the Patent Office all information known by me to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information known by me which became available between the filing date of the prior application and the national or Patent Cooperation Treaty (PCT) or international filing date of the continuation-in-part application.

First Inventor:	<input type="checkbox"/> A petition has been filed for this unsigned inventor		
Name:	Michael TESAR		
Citizenship:	Germany		
Mailing Address:	Karolingerstrasse 26, 82362 Weilheim, Germany		
Inventor's Signature:		Date	July 30, 2009

'746 Patent file history, oath.

278. Dr. Tesar made clear that he *knew* he had a responsibility to report any potentially-reliable data to the Patent Office by testifying under oath that he did not communicate Jerini Report 8190 to the Patent Office because it had a “technical issue” and it was a “decision for the patent attorneys to – to decide whether these should be sent or not.” Tesar Dep. Tr. at 267:23-269:23.

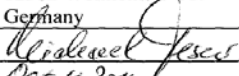
279. Dr. Tesar also testified at deposition that his “duty as a scientist was to perform these assays, and these assays and the results thereof were basically the basis for this patent.” Tesar Dep. Tr. at 226:12-15. Dr. Tesar also testified that he may have drafted the patent itself, and in any event it was his “duty as a scientist to look through the results [to confirm] if they are accurate,” and also that he “work[ed] closely together with patent attorneys” on the project. Tesar Dep. Tr. at 228:10-230:4. As an inventor and an individual associated with the filing and prosecution of the patent applications, Dr. Tesar unquestionably had a duty to disclose all information material to patentability.

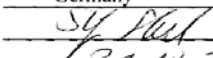
280. Dr. Stefan Steidl is now Head of Preclinical Development at MorphoSys and has worked at MorphoSys since 2001. On information and belief, Dr. Steidl was also involved in the prosecution of the '746, '061 and/or '590 Patents. Dr. Steidl contributed experimental work to the Patents-in-Suit and reviewed and edited the applications. *See* Steidl Dep. Tr. at 103:13-20 (“So I contributed some of the experiments that led to that [’746] patent. And – and I do recall also proofreading or reading the document in the – in the drafting state.”) MorphoSys’s privilege log has identified communications and documents wherein Dr. Steidl was involved in emails “requesting and providing legal advice from counsel regarding patent prosecution,” “providing information for the purpose of rendering legal advice regarding patent office declarations,” “regarding drafting response to office action,” and reports “reflecting a request for legal advice

from counsel regarding patent prosecution.” *See, e.g.*, privilege log entries for: Jan. 22, 2004 report authored by Steidl reflecting a request for legal advice from counsel regarding patent prosecution; Feb. 1, 2004 Email from Urban to Steidl requesting and providing legal advice from counsel regarding patent prosecution; Feb. 19, 2004 Email from Tesar to Steidl requesting information for the purpose of obtaining legal advice regarding patent prosecution; July 3, 2012 Email from Wiegel to Steidl regarding drafting response to office action; Sept. 29, 2014 Email from Steidl to Wiegel providing information for the purpose of rendering legal advice regarding patent office action declarations.

281. Dr. Steidl also was a named inventor on the '061 Patent, and signed an oath and declaration on Nov. 22, 2011; he was removed as an inventor on Oct. 5, 2015 and replaced with Ute Jaeger in light of claim amendments. *See* '061 Patent file history, Nov. 22, 2011 Oath, and Oct. 5, 2015 Request Under Rule 48 to Correct Inventorship. In the executed Oath and Declaration, both Dr. Steidl and Dr. Tesar acknowledged “the duty to disclose to the U.S. Patent and Trademark Office all information known ... to be material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56”:

THAT I acknowledge the duty to disclose to the U.S. Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

Name of first inventor	Michael TESAR
Residence	Weilheim i. Ob., Germany
Citizenship Country	Germany
Post Office Address	Karolingerstrasse 26 82362 Weilheim i. Ob. Germany
Inventor's signature	
Date	Oct. 4, 2011

Name of second inventor	Stefan STEIDL
Residence	München, Germany
Citizenship Country	Germany
Post Office Address	Planeggerstr. 37 81241 München Germany
Inventor's signature	
Date	21.10.2011

282. As such, as an individual associated with the filing and prosecution of the patent applications, Dr. Steidl unquestionably also had a duty to disclose information material to patentability.

283. Dr. Marlies Sproll was Chief Scientific Officer at MorphoSys during the relevant time period and has worked at MorphoSys since 2000. *See* Sproll Dep. Tr. at 15:24-16:1; 16:21-17:10. On information and belief, Dr. Sproll was also involved in the prosecution of the '746, '061 and/or '590 Patents. MorphoSys's privilege log has identified communications and documents wherein Dr. Sproll was involved in emails concerning "patent filings," "patent application materials," "intellectual property protection," "intellectual property evaluation." *See, e.g.,* privilege log entries for: Dec. 6, 2010 Email from Sproll to Hutter containing legal advice from counsel regarding patent application filings; Sept. 1, 2011 Email from Sproll to Hutter requesting advice regarding patent prosecution.

284. Dr. Sproll also testified during her deposition that she was in charge of supervising the Intellectual Property Department at MorphoSys when she was Chief Scientific Officer. *See* Sproll Dep. Tr. at 28:9-20 ("Q: What are your responsibilities with respect to intellectual property? . . . The witness: -- yeah. It was kind of the line manager function for the IP department."); *id.* at 28:22-29:11 ("Q. Are you involved in overseeing the filing of the patents by MorphoSys? . . . THE WITNESS: Supervising the department.") As such, as an individual associated with the filing and prosecution of the patent applications, Dr. Sproll also had a duty to disclose information material to patentability.

285. On information and belief, Paul Wiegel was a patent lawyer at MorphoSys from August 2008 through November 2016. Mr. Wiegel actively prosecuted the Patents-in-Suit. For example, he attended a telephonic interview during which the Examiner and MorphoSys's representatives discussed epitopes for, *e.g.*, then-pending claim 101 (directed to epitopes comprising 44-66, **82-94**, 142-154, 148-164, **158-170**, or 192-206 of CD38) and compared these with prior art epitopes. *See* '746 Patent file history, Oct. 14, 2011 Applicant-Initiated Interview Summary at 2. During prosecution of the '061 Patent, Mr. Wiegel signed and submitted an Amendment on June 17, 2015, again presenting claims based entirely and exclusively on the purported MOR03080 epitope shown in Figure 7 (*see, e.g.*, then-pending claim 30, directed to binding "an epitope of CD38 that contains one or more amino acid residues within **82-94** and **158-170**" of CD38). *See* '061 Patent file history, June 17, 2015 Response after Final Rejection at 2. Likewise during prosecution of the '590 Patent, Mr. Wiegel signed and submitted a Dec. 4, 2015 preliminary amendment, in which MorphoSys sought claim 85 (including residues **82-94** and **158-170** of CD38), claim 109 (directed to an antibody "that binds to a CD38 peptide consisting of amino acid residues **82-94** of CD38"), and claim 110 (directed to an antibody that "binds to a CD38 peptide consisting of amino acid residues **158-170** of CD38), all of which are based on the Figure 7 epitope for MOR03080. *See* '590 Patent file history, Dec. 4, 2015 Preliminary Amendment. Next, in a February 4, 2016 amendment again signed and submitted by Mr. Wiegel, MorphoSys sought claim 115 (including residues **82-94** and **158-170** of CD38), claim 140 (directed to an antibody "that binds to a CD38 peptide of amino acid residues **82-94** of CD38"), and claim 141 (directed to an antibody that "binds to a CD38 peptide of amino acid residues **158-170** of CD38). *See* '590 Patent file history, Feb. 4, 2016 Preliminary Amendment. MorphoSys and Mr. Wiegel again pointed the Examiner to "Figure 7 and paragraph [0146]" of

the specification as support for its claims to antibodies binding to “CQSVWDAFKGAFI” and “TWCGEFNTSKINY” (positions **82-94** and **158-170** of CD38, which correspond to the epitope shown in Figure 7 for MOR03080). *See* ’590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 15. Mr. Wiegel’s mailing address is listed on the ’746 Patent’s November 2, 2015 Certificate of Correction, and the ’061 Patent’s March 31, 2016 Certificate of Correction; Mr. Wiegel signed and submitted the ’590 Patent’s December 4, 2015 Statement to Support Filing and Submission in Accordance with 37 C.F.R. §§ 1.821-1.825, as well as Information Disclosure Statements for the ’590 Patent (Dec. 4, 2015).

286. Mr. Wiegel also appears frequently on MorphoSys’s privilege log in this case in connection with patent prosecution activities. For example, MorphoSys’s privilege log has identified communications and documents wherein Mr. Wiegel was involved in emails “regarding review of draft patent prosecution documents” and “providing legal advice from counsel regarding patent prosecution claims,” as well as patent prosecution documents “regarding draft patent claims” and “regarding office action response.” *See, e.g.*, privilege log entries for: Apr. 14, 2009 Email from Wiegel to Thellman, Steidl, and Leclair providing legal advice from counsel regarding patent prosecution claims; Aug. 11, 2010 Email from Wiegel to Gorgey reflecting legal advice from counsel regarding review of draft patent prosecution documents; Jan. 3, 2011 document authored by Wiegel regarding office action response; Apr. 16, 2013 patent prosecution document authored by Wiegel regarding patent prosecution; Apr. 30, 2014 patent prosecution document authored by Wiegel regarding draft patent claims.

Failure to Disclose the Contradictory Results by Individuals Having a Duty to Do So

287. Dr. Tesar was aware of the contradictory ELISA Fc-fusion epitope mapping results no later than Dec. 17, 2002, when the data was presented in an R&D meeting. *See* Ex.

1050 at slide 12. On July 15, 2003, Dr. Tesar emailed colleagues a summary of this data, explaining that “we were able to already establish that our antibodies react exclusively with the construct aa 45-400,” yielding a “strong indication” that the epitope lie “only in this C-terminal range.” Ex. 1051. The application that ultimately issued as the ’746 Patent had not yet been filed at this time.

288. Drs. Tesar and Steidl were aware of the contradictory Malavasi competitive binding experiment epitope mapping results no later than Sept. 17, 2003, when the data was presented in a teleconference. *See* Ex. 1052. On November 4, 2003, the results were presented in an R&D meeting, alongside the Jerini #3571 peptide array results. *See* Ex. 1053 at slides 19-24. The application that ultimately issued as the ’746 Patent had not yet been filed at this time.

289. Dr. Tesar was aware of the contradictory NMI MapART peptide array mapping results no later than November 10, 2004, when Dr. Ostendorp emailed him an overlaid figure comparing NMI’s peptide array results with those from Jerini’s #3571 Report, including contradictory, non-overlapping epitope identifications for MOR03079 and MOR03080. *See* Ex. 1056. The non-provisional application that ultimately issued as the ’746 Patent had not yet been filed at this time.

290. Dr. Tesar was aware of the contradictory NMI EST epitope mapping results dated June 22, 2005 no later than July 15, 2005, when Dr. Ostendorp emailed them as an attachment. *See* MSYS_01711020. Dr. Ostendorp told Tesar that while the NMI and Jerini data lined up for ICAM (another antigen tested), the results for the CD38 epitope mapping were contradictory: “[T]here will be another follow-up conference call about this, because the data situation is really complex and we are still not really combining the data sets of Jerini with the peptide and EST data from NMI (by contrast, we have a very clear picture for ICAM).” Dr. Ostendorp also wrote

to Tesar “[f]eel free to stop by anytime – we need to talk about patent supplements anyway.” MSYS_01711020.

291. The NMI EST report included a statement in the report that NMI and Jerini results were “rather contradictory” and a supplementary table listing differing epitope identifications for, among others, MOR03080. Ex. 1055. The application that ultimately issued as the ’746 Patent had recently been filed at this time; MorphoSys would still file new epitope-based claims relying solely on Figure 7 over seven years after this, without ever communicating the contradictory NMI EST epitope mapping results to the Patent Office.

292. Dr. Tesar was aware of the failed Jerini 8190 Report epitope mapping results no later than December 1, 2006, when Thomas Ast of Jerini emailed the report as an attachment. *See* Ex. 1172. Dr. Tesar emailed others at MorphoSys to discuss the results and next steps, stating that “Jerini is now going to try alternatives (glass-slides, direct labelling) in order to get it to work.” Ex. 1058.

293. Dr. Tesar was aware of the contradictory Jerini Replitope Report epitope mapping results no later than December 1, 2006, when Thomas Ast emailed them as an attachment. *See* Ex. 1172. This report included results performed in triplicate (unlike Jerini Report 3571), with “good” signal to noise ratio, no false positives from secondary antibodies, and included epitope results for MOR03087, as well as epitope results for MOR03080 that contradicted the earlier Jerini 3571 Report. MorphoSys was actively prosecuting the ’746 Patent application at this time; MorphoSys would file new epitope-based claims relying solely on Figure 7 nearly six years after this, without ever communicating the contradictory results of the Jerini Replitope Report to the Patent Office.

294. Dr. Steidl was aware of the contradictory Jerini Replitope Report results at the latest by 2009. In November 2009, Dr. Steidl sent an email, subject “MOR202 Offsite,” attaching a December 2008 slide presentation that reported both the MOR03080 and MOR03087 epitopes using data drawn from the Jerini Replitope Report. *See* Ex. 1073 at slide 20. And in August 2011, Dr. Tesar sent Dr. Steidl an email, subject “Epitope mappings....CD38,” (Ex. 1173) stating that “further mapping experiment using Replitope Peptide Microarray” was done, and this experiment “did not have the difficulties.” Dr. Tesar further informed Dr. Steidl in this email that there was only partial agreement between the Replitope result for MOR03080 and the epitope result from the first Jerini report.

295. Mr. Wiegel was aware of the Jerini Replitope Report at the latest by 2013. In February 2013, Mr. Wiegel sent an email, subject “MOR202 epitope,” (MSYS_01884788) attaching a slide presentation (MSYS_01884789) that reported both the MOR03080 and MOR03087 epitopes using data drawn from the Jerini Replitope Report. And on May 29, 2013, Mr. Wiegel emailed the Jerini Replitope Report itself as an attachment to third party collaborator Celgene, stating “[p]lease find attached the summary of the MOR3080 epitope mapping.” MSYS_00575470.

296. No later than January 16, 2007—a short time after MorphoSys received the Jerini Replitope Report (*see* Steidl Dep. Tr. at 248:13-19), Dr. Tesar included the revised epitope results for MOR03080 and MOR03087 in a MorphoSys presentation, including the revised epitope for MOR03080 that differed from patent Figure 7. *See* Ex. 1123 at slide 29. This presentation was sent to MorphoSys senior management, including Dr. Sproll. Ex. 1123. A management board presentation dated February 8, 2007 also contains these revised epitope results (MSYS_00267821), and on information and belief, Dr. Sproll attended this management

board presentation. MorphoSys relied upon these revised epitopes for MOR03080 and MOR03087 not just in presentations to upper management but also in presentations to the public and third-parties on many occasions. For example, on May 4, 2007, Dr. Tesar provided Dr. Sproll a poster presentation containing these revised epitopes in preparation for the 2007 American Society of Clinical Oncology conference. *See* MSYS_01184698; MSYS_01184699. Around the same time, Dr. Sproll also received a slide deck containing these revised epitopes from Dr. Bianca Ahrens, who was seeking Dr. Sproll's comments prior to presenting it at a scientific conference. *See* MSYS_01423401. When the MorphoSys team, including Dr. Sproll, needed to inform a potential collaborator about its CD38 program, a slide deck containing these revised epitopes was the used. *See* MSYS_01401756. Against this backdrop, MorphoSys was actively prosecuting the '746 Patent application at this time, and continued to file new epitope-based claims relying on and misrepresenting Figure 7 over a period of many years.

297. On information and belief, MorphoSys's IP team, and in particular Mr. Wiegel, received Dr. Tesar's 2007 PowerPoint presentation that included the Jerini Replitope Report data for MOR03080 that directly contradicted patent Figure 7. One version of this file produced by MorphoSys (MSYS_00892680) bears the custodian "IP Network," and another version (MSYS_01399771) was taken from a folder titled "Client_Document\2016-03-11 - Files from Paul Wiegel\After invention."

298. Dr. Tesar, Dr. Steidl, Dr. Sproll, and Mr. Wiegel were aware of and had knowledge of the contradictory epitope mapping data discussed in paragraphs 287-297 above, but did not submit these results to the Patent Office. Instead, the only epitope mapping results the Examiner evaluated were those on which Figure 7 is based—namely the single Jerini 3571 Report.

Intent to Deceive, and the Inequitable Conduct that Resulted in the Patents-in-Suit

299. Dr. Tesar, Dr. Steidl, Dr. Sproll, Mr. Wiegel, and other individuals associated with the filing or prosecution of the patent applications intentionally failed to disclose contradictory epitope mapping data to the Patent Office in connection with prosecution of those patents, with intent to deceive the Patent Office.

300. MorphoSys actively prosecuted one or more Patents-in-Suit over a twelve-year period, from early 2005 through late 2017. The PCT application that issued as the '746 Patent was filed on February 7, 2005, and prosecution continued for over seven years. During prosecution, MorphoSys submitted what would ultimately issue as epitope-based antibody claims in the '746 Patent on October 18, 2011, and was actively prosecuting and amending filed claims as late as March 13, 2012. The Notice of Allowance issued on April 30, 2012, and the '746 Patent itself issued on September 11, 2012. MorphoSys filed the application that ultimately issued as the '061 Patent on November 11, 2011, and the '061 Patent issued on December 1, 2015. MorphoSys filed the application that ultimately issued as the '590 Patent on December 4, 2015, and the '590 Patent issued on Sep. 12, 2017.

301. Shortly after prosecution started on the '746 Patent, on July 22, 2005, Dr. Sproll—who in 2005 became the Chief Scientific Officer of MorphoSys and whose duties included overseeing the IP department (*see* Sproll Dep. Tr. 28:9-20; 28:22-29:11)—sent an internal email concerning the CD38 project explicitly stating the company's unwillingness to perform "further work on the epitope mapping [of] CD38", so as to "not compromise our already files [sic] patent application!!" Ex. 1124. Dr. Sproll's 2005 email evidences MorphoSys's specific intent to deceive the Patent Office—initially by making sure not to do follow up experiments that might contradict Figure 7:

Sender: Marlies Sproll </O=MORPHOSYS_GMBH/OU=MUENCHEN/CN=RECIPIENTS/CN=MARLISS>
Sent: Friday, July 22, 2005 8:50:36 AM
Recipient: Ralf Ostendorp <Ralf.Ostendorp@morphosys.com>; MOR AL's & GL's (R&D only)
<MOR_DIS_DHsGLs@morphosys.com>; Robert Friesen <Robert.Friesen@morphosys.com>
Subject: RE: Antw: mapART

Hi Ralf,
Thanks for the info and the paper.
With regard to further work on the epitope mapping CD38:
Please keep in mind that we at first have to ensure with IP that we do not compromise our already files patent application!!
This needs tight interaction with IP and I recommend to take this up with Steve, who will be back mid August (not "only" Tanja)!!
Thanx, Marlies

302. But despite Dr. Sproll's careful admonition—which she was instructed by MorphoSys's trial counsel not to testify about at deposition, citing privilege (*see* Sproll Dep. Tr. at 247:1-250:18)—MorphoSys did in fact “perform further work on the epitope mapping” of its disclosed anti-CD38 antibodies when Jerini included MOR03080 as a control antibody in a later study. When this “control” did not match its own Figure 7 epitope, Jerini investigated further; the resulting Jerini Replotope Report revealed a totally different, contradictory epitope for MOR03080.

303. In other words, just as Dr. Sproll had feared in her July 22, 2005 email, contradictory results did in fact “compromise [MorphoSys's] already file[d] patent application[.]” But the key individuals—having knowledge of these contradictory results and knowing their materiality to the pending patent applications—chose not to disclose them to the Patent Office, with the intent that the Examiner would never know about the unreliability of the Figure 7 data. These individuals concealed material information about Figure 7 even while repeatedly misrepresenting and emphasizing its importance to the Examiner and to this Court.

304. MorphoSys and the individuals having a duty to disclose, have engaged in a pattern of deliberate withholding of data from the Patent Office and misrepresentation of what results are actually exemplified in the patent specification. This is strong evidence of the specific intent to deceive the Patent Office.

305. At deposition, MorphoSys witnesses including Dr. Steidl and Dr. Tesar disparaged the reliability of the withheld reports, until confronted with contemporaneous documents supporting their reliability. The way MorphoSys's witnesses testified at their recent depositions provides further evidence of the specific intent to deceive the Patent Office.

306. *MorphoSys witnesses testified that the Jerini 3571 Report was "state of the art" and disparaged later Jerini Reports, until confronted with contemporaneous documents:* At deposition, MorphoSys witnesses, including named inventor Dr. Tesar, 30(b)(6) designee Dr. Steidl, and other scientists personally involved in the CD38 project, consistently testified that Jerini peptide array epitope mapping was "state of the art" and a "gold standard"—so much so that replicates need not even be performed. *See, e.g.,* Tesar Dep. Tr. at 185:10-20 ("Did you feel that the [Jerini 3571] experiment had been well-performed? ... THE WITNESS: Well, feel? Feel? What does feeling mean? They told us to perform this mapping based on quality standards. They certainly had established at their company, so why shouldn't we trust on these results?"); *see also* Ostendorp Dep. Tr. at 259:21-260:23 ("So we consider this [Jerini 3571] report as a final report. And the final -- how should I say it? A report on a method which is widely accepted and state of the art in the community. There's no reason to doubt the results from this experiments. And the report gives an outlook of the opportunities to characterize an epitope with more position if need be. So there's for me no reason to follow up on any activities but to take these data as facts being performed and deduced from a state-of-the-art technology"); Ostendorp Dep. Tr. at 111:22-112:18 ("Q. As the head of the protein sciences group, would you expect that that [Jerini 3571, Figure 7] work had been confirmed to be reproducible? ... THE WITNESS: In general, not necessarily. If there is no reason to doubt experimental results with a well-established technology, I would not necessarily expect to reproduce each and every

experiment”); Ostendorp Dep. Tr. at 323:10-13 (“there’s no reason to replicate results which are solid and performed with the state-of-the-art methodology.”)

307. MorphoSys’s 30(b)(6) designee Dr. Steidl repeatedly testified on behalf of the company that the contradictory results of the follow-up Jerini epitope mapping reports were unreliable. *See* Steidl Dep. Tr. at 219:19-220:10 (“This is a depiction of this second Jerini study we asked them to do for us. And in contrast to what’s stated in the report from Jerini, somebody interpreted apparently on the MorphoSys end and – this slide and – yes, that’s what we see here”); *see also id.* at 213:23-214:17 (“that Jerini report concluded—because they had technical problems with the secondary antibody, that the results that they obtained were basically not robust and therefore were non-data”); *id.* at 227:23-228:11 (“I would like to note that the report underlying this depiction in the [Ex.] 1123 document is judged to be non-reliable”); *id.* at 227:12-19 (“the report itself say[s] these data are not reliable”).

308. MorphoSys 30(b)(6) designee Dr. Steidl also disparaged later Jerini studies as “non-data”, and called the Jerini Replitope Report an unreliable “demo report.” *See* Steidl Dep. Tr. at 178:25-179:5 (testifying that, aside from the Jerini 3571 Report which underlies Figure 7, “no other epitope mapping with a PepSpot technology was done that gave reliable results”).

309. When shown the Jerini Replitope Report at deposition, Dr. Steidl first attempted to discredit it by inferring an internal comparison (“very similar binding patterns”) to the failed Jerini 8190 Report. *See* Steidl Dep. Tr. at 242:15-245:3 (“So I would think that Jerini in itself is inconsistent, because the third bullet point is saying, ‘All primary antibodies show very similar binding patterns.’ This might well be referring to the other report, but the other report in their own words was deemed to be not valid”).

310. Only when confronted with contemporaneous documents did Dr. Steidl admit that MorphoSys had in fact requested the Jerini Replitope assay. *Compare* Steidl Dep. Tr. at 237:3-17 (first testifying that Jerini “offered” to provide the Jerini Replitope Report as a “‘demo report,’ whatever that means”) *with* Steidl Dep. Tr. at 251:6-16 (confronted with document, admitting that “it wasn’t that Jerini had done this on their own; it was something that MorphoSys had agreed should be done”).

311. When confronted with Dr. Tesar’s contemporaneous email stating that the Jerini Replitope microarray experiment did not have difficulties and was declared by Jerini to be evaluable, Dr. Steidl, testifying on behalf of MorphoSys, contradicted the contemporaneous documents to argue that the Jerini Replitope Report is nonetheless unreliable. *See* Steidl Dep. Tr. at 251:17-252:24 (Tesar “used parentheses [sic, quotation marks]. And you could -- well, of course it’s interpretation. But my interpretation is that these data are not reliable. Why would he other—otherwise used parentheses? And he used also interestingly the wording that it has been declared analyzable. That’s—I think that’s what—what is your translation say? ‘Evaluable.’ ‘Declared to be evaluable.’ For me also implies that he had some doubt whether that was the case. So it’s not—it’s not his opinion. It says it was ‘declared evaluable,’ and he’s taken this for a qualitative graphic.”) This testimony stands in contrast to numerous documents in Morphosys’s internal documents, as set forth below.

312. Dr. Steidl, again testifying on behalf of MorphoSys, even went so far as to testify that no valid epitope data exists for the company’s MOR03087 (“MOR202”) clinical lead candidate—because those results, as shown in company materials, came from the same Jerini Replitope Report that Dr. Steidl now disparages:

Q. You understand that the epitope of daratumumab is different from the epitope of 3087?

A. I'm aware that there are published data on the daratumumab epitope, and as we—as MorphoSys—as I explained to you by judging the data from the PepSpot mapping is not valid, did not come to a conclusion what the actual 3087 epitope is. I can't answer the question, because I would be comparing published data with non-data.

Q. So is it—is it your position that MorphoSys doesn't know what the epitope of 3087 is?

A. We have not conducted, to the best of my knowledge, any other epitope mapping studies other than the two that we have discussed. So I do conclude we are not currently in possession of the knowledge of to say this is the 3087 epitope.

Steidl Dep. Tr. at 264:6-265:3.

313. MorphoSys witnesses were evidently prepared not to bring up the contradictory Jerini Replitope Report at all, and if it was brought up in deposition, to disparage it as “non-data.”

314. But the witnesses’ “party line” is completely undermined by contemporaneous documents, as well as deposition testimony secured after witnesses were presented with those documents, which tell a very different story.

315. ***Internal Reliance on Replitope Results:*** In a 2011 email to Dr. Steidl , Dr. Tesar described the Jerini Replitope Report as follows: “The Microarray experiment did not have the difficulties, was declared by Jerini to be evaluable, and the result was ‘qualitatively’ drawn by me in a graph.” Ex. 1173. Despite deposition testimony to the contrary, contemporaneous documents set forth below reveal that the epitope results of the Jerini Replitope Report were extensively used and relied upon by MorphoSys at the same time that the ’746 Patent application was being prosecuted, and that MorphoSys specifically discussed the contradictory epitope data mere weeks before filing the ’061 continuation in part application.

316. ***MorphoSys’s Witnesses’ Attempted Disavowal of MOR03087 Replitope Results:*** As noted earlier, at deposition Dr. Steidl testified on behalf of the company that MorphoSys does

not actually know the epitope of MOR03087, the same antibody that is the company's current clinical lead candidate (now designated as "MOR202"). Dr. Steidl boxed himself into this position by repeatedly asserting that the Jerini Replitope Report was "not valid," notwithstanding that it was also the source of MorphoSys's epitope data for MOR03087. *See* Steidl Dep. Tr. at 264:6-265:3 ("we -- as MorphoSys -- as I explained to you by judging the data from the PepSpot mapping is not valid, did not come to a conclusion what the actual 3087 epitope is").

317. Contrary to Dr. Steidl's testimony, MorphoSys has clearly relied on the results of the Jerini Replitope Report whenever it reported the epitope of MOR03087, which is its current clinical lead candidate (now designated as "MOR202").

318. When confronted at deposition with his own 2008 email, Dr. Steidl admitted that he had personally provided MOR03087 epitope information based on data from the Jerini Replitope Report, without qualification, to MorphoSys's Chief Scientific Officer. *See* Steidl Dep. Tr. at 266:6-267:18 ("it may be a comparison of the epitopes which has been in the report -- in this -- this glass slide report being mentioned").

319. And as set forth below, MorphoSys repeatedly and unequivocally relied on the MOR03080 and MOR03087 epitope data from the Jerini Replitope Report, both internally and externally.

320. ***Reliance on MOR03080 Replitope Results—Communications with Celgene:*** In May 2013, third party collaborator Celgene asked for "a summary of the results of the MOR3080 epitope mapping." MSYS_00575470. Mr. Wiegel responded, stating "[p]lease find attached the summary of the MOR3080 epitope mapping," and attached only the Jerini Replitope Report, in its entirety:

Sender: Paul Wiegel </O=MORPHOSYS_GMBH/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=PAULW>
Sent: Wednesday, May 29, 2013 11:05:45 AM
Recipient: Carla Kuhner <ckuhner@celgene.com>
Cc: Konstantin Petropoulos <Konstantin.Petropoulos@morphosys.com>; Ariel Jasie <ajasie@celgene.com>
Subject: RE: MOR3080 epitope MAP
Attachments: Antibody_Profiling_Tesar-8190_final.pdf

Dear Carla

Thanks for your patience. Please find attached the summary of the MOR3080 epitope mapping. Please let me know if you would like to discuss.

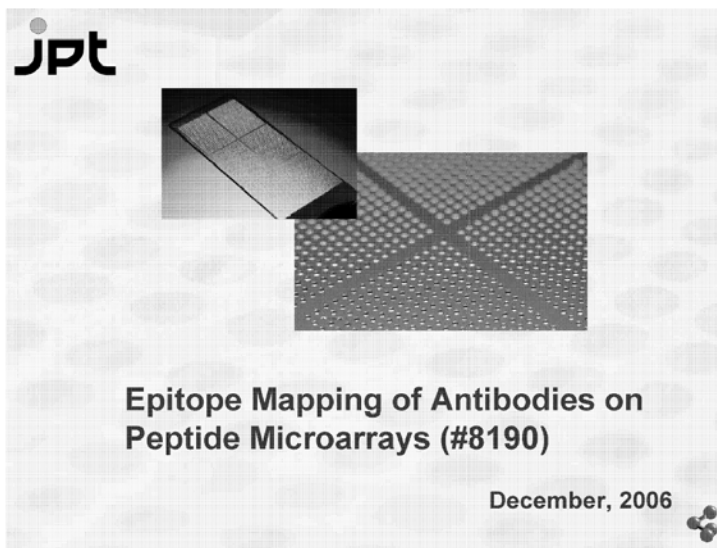
Kind regards,

Paul

Paul F. Wiegel, J.D., LL.M.
Associate Director, Intellectual Property
U.S. Patent Attorney

MorphoSys AG
Lena-Christ-Str. 48
D-82152 Planegg-Martinsried

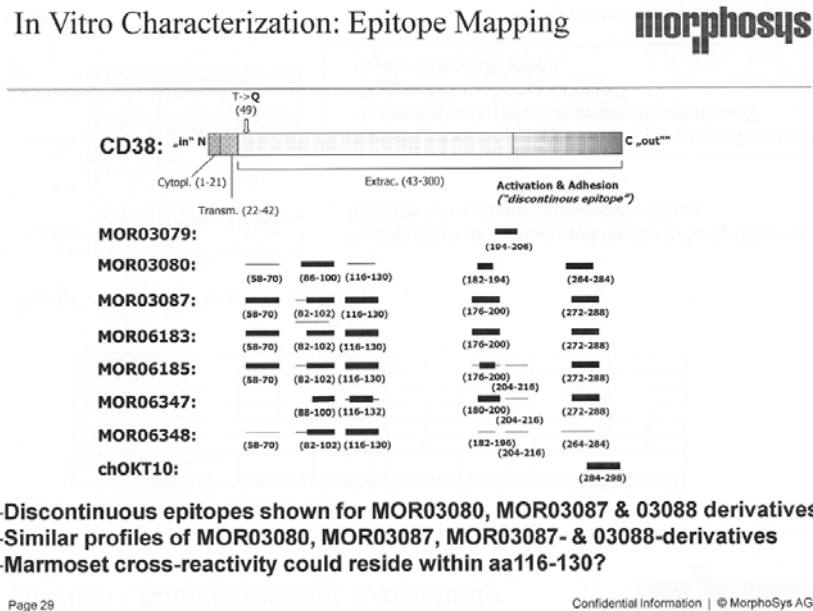
MSYS_00575470.



MSYS_00575472.

321. MorphoSys's explicit reliance on the Jerini Replitope Report—including providing third-party collaborator Celgene without qualification as a “summary of the MOR3080 epitope mapping”—belies Dr. Steidl's deposition testimony that the Jerini Replitope Report was considered unreliable, and clearly demonstrates that MorphoSys both internally and externally relied on the revised epitopes for MOR03080 in the Jerini Replitope Report without ever providing them to the Patent Office.

322. **Reliance on MOR03080 Replitope Results—2007 R&D Presentation:** A January 16, 2007 MorphoSys R&D presentation (Ex. 1123) included epitope mapping data derived from the Jerini Replitope Report. A slide therein prepared by Dr. Tesar (*see* Steidl 252-53; Ex. 1173) presented only the revised epitope results for MOR03080 (*see* Ex. 1123 at slide 29), omitting completely the earlier Figure 7 results:



323. Both 30(b)(6) designee Dr. Steidl and Chief Scientific Officer Dr. Sproll confirmed at deposition that MorphoSys graphs depicting MOR03080 epitopes were different from 2005 to 2007 (*i.e.*, before and after the Jerini Replitope Report). *See* Sproll Dep. Tr. at 239:2-240:14; *see also* Steidl Dep. Tr. at 228:12-17 ("the two depictions are different"). Yet the Patent Office received only one.

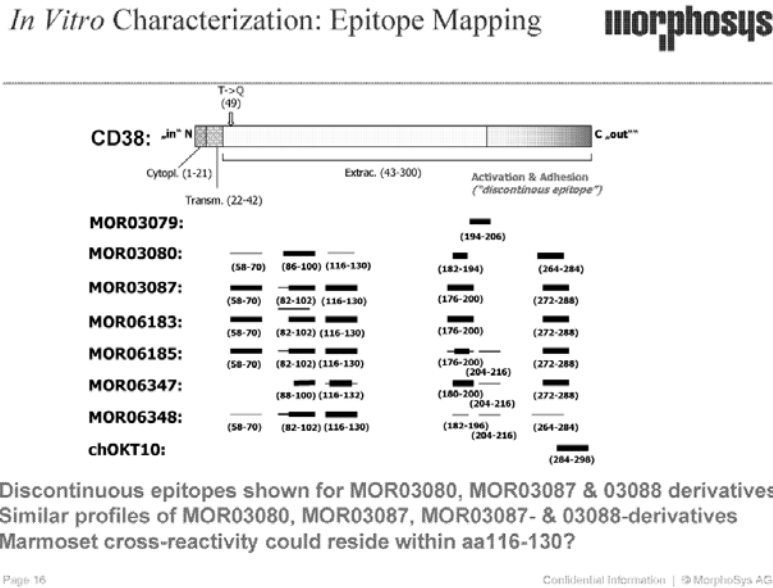
324. The 2007 R&D meeting data came from the Jerini Replitope Report. Again, the figure below compares the MOR03080 epitope reported in patent Figure 7 (top) with the Jerini Replitope Results (colored), which are also seen in the 2007 presentation:



325. This “Epitope Mapping” data was presented alongside other results, with no mention made of the data being unreliable in any way. *See* Steidl Dep. Tr. at 222:25-227:19 (Dr. Steidl unable to point to any document that stated that epitope results in the 2007 R&D Meeting presentation were not reliable).

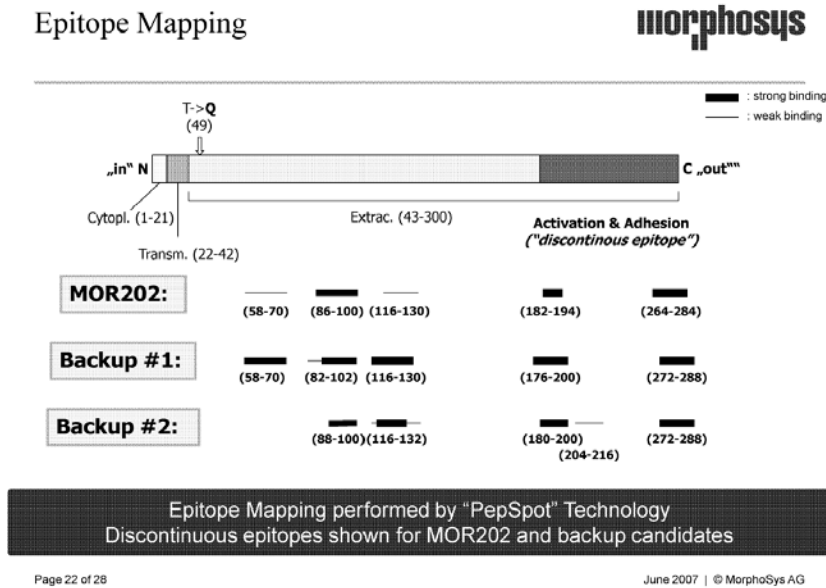
326. MorphoSys testified that this 2007 presentation (Ex. 1123) containing revised MOR03080 epitope data based on the Jerini Replitope Report was provided to top company management, including the CEO and CSO of MorphoSys. *See* Steidl Dep. Tr. at 220:18-221:16 (“In the framework of the RDM, and indeed the three Vorstand members have been CC’d”). And this was done without qualification – with no mention of the new data being unreliable or flawed in any way. Rather, it was presented as the accurate data, which MorphoSys nevertheless withheld from the Patent Office, putting issuance of their patents above truth and candor.

327. ***Reliance on MOR03080 and MOR03087 Replitope Results—2007 Vorstand Presentation:*** On information and belief, on Feb. 8, 2007, the MOR202 Project Team also presented to the board and senior executives of MorphoSys (“Vorstand”) the presentation “Development of MOR202 for Multiple Myeloma: Selection of a lead candidate for an IND-enabling development programme.” MSYS_00267821 These slides again included the same depiction of MOR03080 and MOR03087 epitopes derived from the Jerini Replitope Report:



MSYS_00267821 at Slide 16.

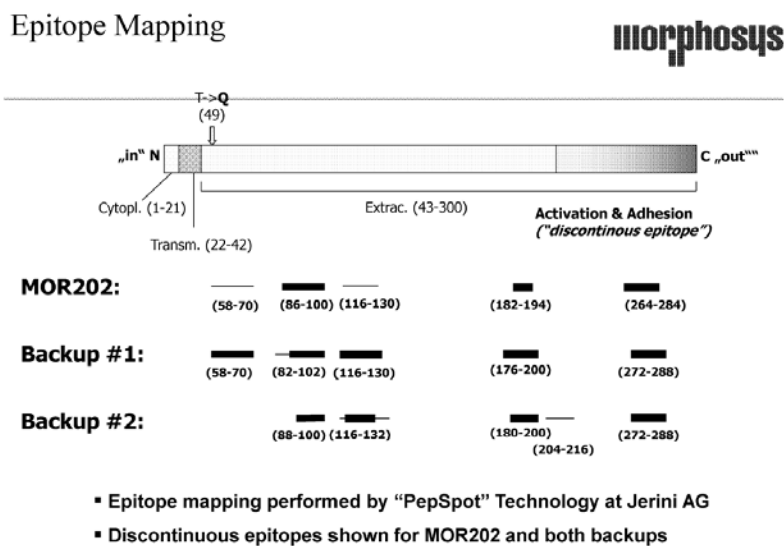
328. ***Reliance on MOR03080 and MOR03087 Replitope Results—2007 Ahrens Conference Presentation:*** On information and belief, on June 18-20, 2007 MorphoSys employee Bianca Ahrens (Scientist, Research & Development) presented “MOR202: A Fully Human Antibody against CD38 for the Treatment of Multiple Myeloma and other Blood Borne Malignancies” at the “24th International Conference, ‘Advances in the Application of Monoclonal Antibodies in Clinical Oncology,’ Limassol, Cyprus.” The final-version slides (*see* May 25, 2007 Ahrens email, MSYS_01968789) include, without qualification or caveat, epitope data for MOR03080 (here called “MOR202,” as it was still at this time considered the lead candidate), along with MOR03087 (here called “Backup #1”) that precisely matches the Jerini Replitope Report (and contradicts Figure 7 in the Patents-in-Suit):



MSYS_01968790 at Slide 22; MSYS_01047175 at Slide 22.

329. *Reliance on MOR03080 and MOR03087 Replitope Results—2007 Tesar ASCO*

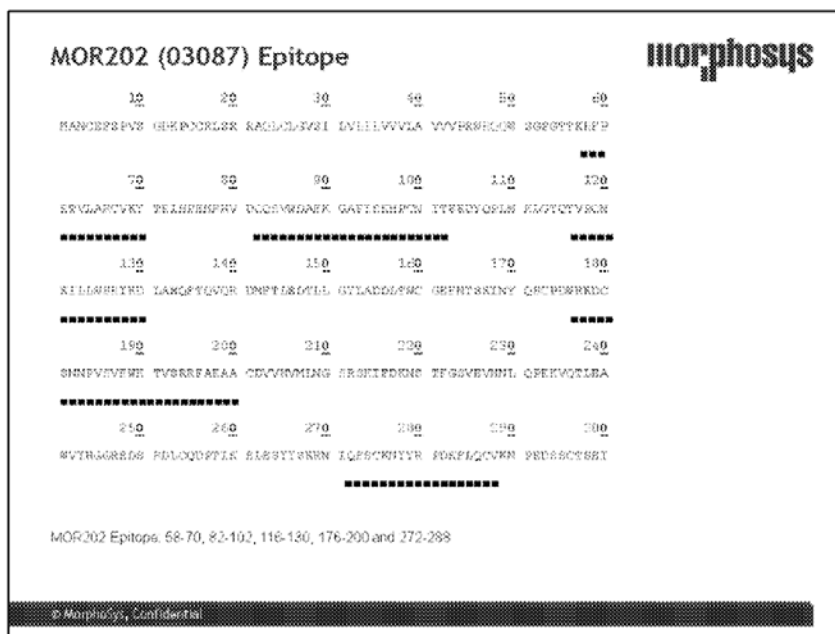
Conference Presentation: On information and belief, on Apr. 30, 2007, Dr. Tesar presented a series of slides at the 2007 ASCO Conference (*see* MSYS_00093843 and MSYS_00092990). These slides included the same depiction of MOR03080 and MOR03087 epitopes derived from the Jerini Replitope Report:



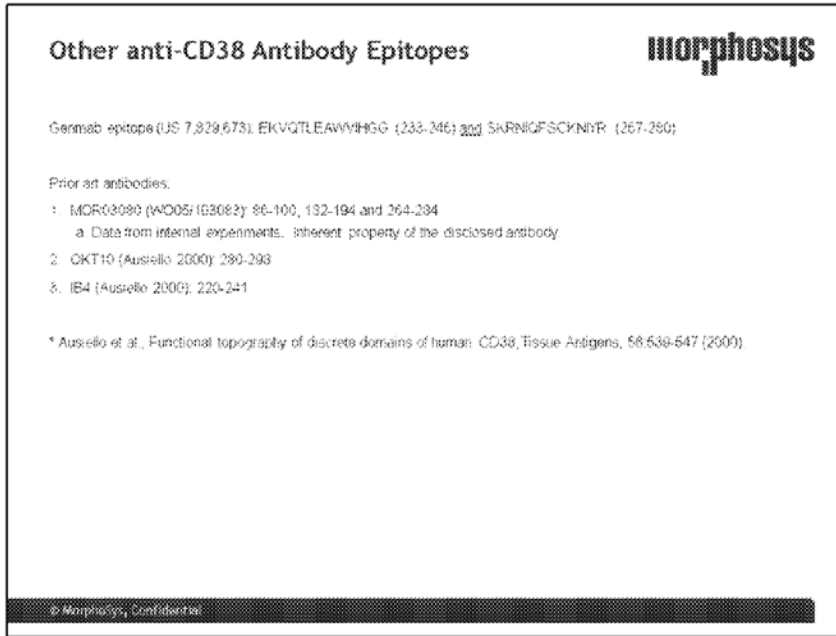
MSYS_00092991 at Slide 11.

330. Similar slides were also communicated to a Professor Keppler on Jan. 14, 2008 (see MSYS_01036829 from MorphoSys business development to Prof. Keppler, providing “further information on our MOR202 oncology program”; see also attachment MSYS_01036830 at slide 22).

331. **Reliance on MOR03080 and MOR03087 Replitope Results—Communications with [REDACTED]:** In February 2013, Mr. Wiegel wrote to [REDACTED] subject “MOR202 epitope,” (MSYS_01884788) attaching a slide presentation (MSYS_01884789) that reported both the MOR03080 and MOR03087 epitopes using data drawn from the Jerini Replitope Report:



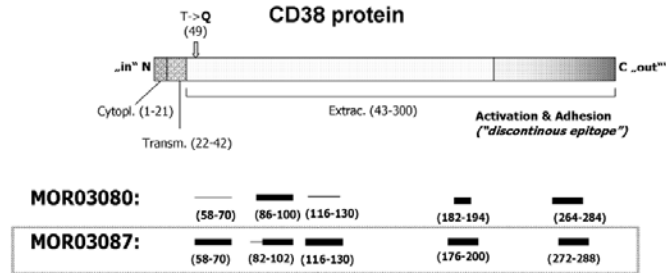
MSYS_01884789 at slide 2 (Reporting “MOR202 Epitope: 58-70, 82-102, 116-130, 176-200, and 272-288”).



MSYS_01884789 at slide 3 (Reporting “MOR03080 (WO05/103083): 86-100, 182-194, and 264-284”).

332. ***Further, Extensive Reliance on MOR03087 Replitope Results, and Epitope Comparisons of MOR03087 to Genmab’s Accused Product:*** In an 84-slide December 2008 PowerPoint presentation titled “MOR202: Characterization of MOR03087: Project Update,” MorphoSys presented “Epitope Mapping” data for both MOR03080 and MOR03087, with values exactly matching the ranges reported in the Jerini Replitope Report:

Epitope Mapping



- Discontinuous epitopes shown for MOR03087 and MOR03080
- Similar profile for MOR03087 and MOR03080

MSYS_00064221 at slide 26.

333. And in this same 2008 presentation, MorphoSys directly compared its MOR03087 clinical lead candidate to its Sanofi and Genmab competitors, including a comparison of epitopes. In a row titled “Epitope Mapping (MOR),” MorphoSys reported the MOR03087 epitope as “Peptides recognized: aa 58-70, aa 82-102, aa 116-130, aa 176-200, aa 272-288,” which again directly corresponds to the Jerini Replitope Report (and contradicts Figure 7 of the Patents-in-Suit):

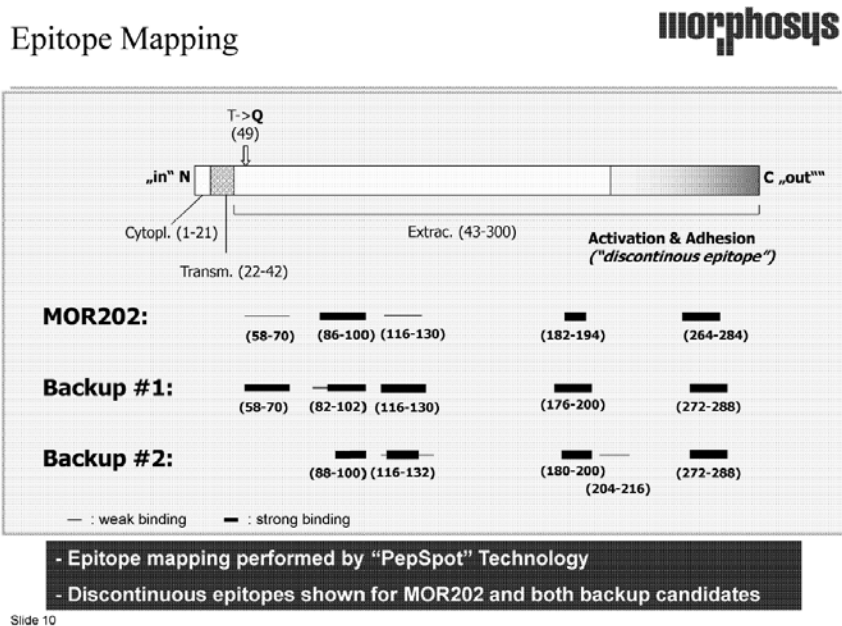
Epitope Mapping (Genmab)	FACS: Competition with 003 and 005 on CHOCD38+ (no info on 024)	no comp. with 005	no comp. with 003	no info															
	Peptides recognized: SKRNQFSCKMYR (aa257-280) & EKVGTLKAWYHGG (aa233-246)	+	+	+															
	Sub-Motif: RMQF especially recognized by antibody	+																	
	Sub-Motif: IPRH & VDTL especially recognized by antibody		+																
Epitope Mapping (MOR)	Peptides recognized: aa 58-70, aa 82-102, aa 116-130, aa 176-200, aa 272-288																		

Potential lead antibodies: GenMAB-005. SA 38SB19

October 2008 | © MorphoSys AG

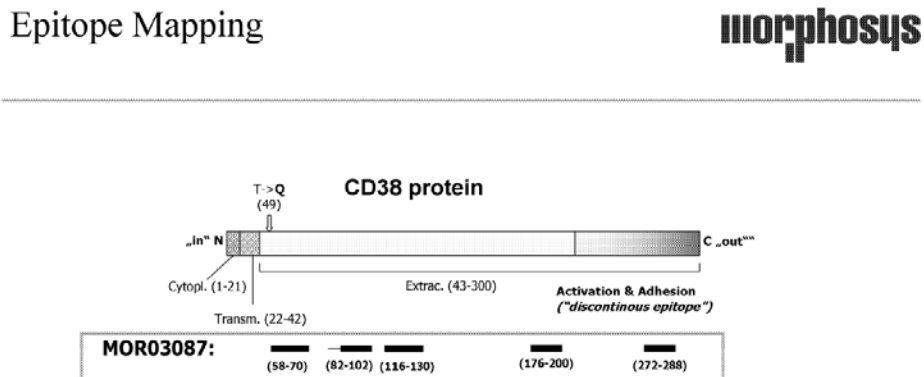
MSYS_00064221 at slide 84.

334. In another slide presentation, MorphoSys again included epitope data taken from the Jerini Replitope Report for MOR03080 (here listed as “MOR202”), as well as for MOR03087 (here still listed as “Backup #1):



MSYS_00078190 at slide 10.

335. In an April 2009 presentation for a “confidential MOR pipeline presentation held... at Tracon,” which “combine[s] data already presented at a conference plus some new slides,” (*see* accompanying email MSYS_00012791), MorphoSys again relied on the Jerini Replitope Report data for MOR03087:



- Discontinuous epitope shown for MOR03087

MSYS_00012821 at slide 17.

336. *MorphoSys's Knowledge of Contradictory Data and Selective Disclosure:*

Contemporaneous documents show MorphoSys knew that its Figure 7 data was contradicted at the very least by the Jerini Replitope Report.

337. In a 2009 email, Dr. Tesar stated that “[u]nfortunately,” in doing the follow-up Jerini epitope mapping, “the old epitopes from MOR03080 could not be completely confirmed... I have also brought this up at Jerini, but they are unable to give me a reason for this.” Ex. 1111.

338. Dr. Tesar also stated that of “two epitope mappings from Jerini,” “[f]or the patent, we have taken the data from the first epitope mapping.” *Id.*

339. Dr. Tesar stated in an August 18, 2011 email to Dr. Steidl that MOR03080 had been used in the Jerini Replitope Report as a “positive control,” but that “[u]nfortunately, there was only partial agreement of the MOR03080 with the already available epitope from the very first Jerini measurement... Discontinuing epitopes are certainly much more difficult to determine than linear ones.” Ex. 1173.

340. In the same 2011 email to Dr. Steidl, Dr. Tesar stated that MorphoSys had “agreed on further mapping experiment using RepliTope Peptide Microarray”, noted that the Jerini Replitope Report was “evaluable,” and then stated “[a]s far as I know, only the results from the ‘evaluable’ report were used for the patent? Please correct me if I am wrong here.” *Id.*

341. This 2011 email was sent mere weeks before the continuation-in-part application that would eventually issue as the '061 Patent was filed, and exactly two months before MorphoSys submitted new '746 claims 142-148 to the Patent Office, directed to, *e.g.*, “[a]n isolated antibody or antibody fragment thereof containing an antigen-binding region... which specifically binds within amino acids 82-94 or 158-170 of CD38”—stating that “[s]upport for

these claims can be found, for example, at Figure 7 and ¶¶ 0136-0138 of the published specification.”

342. These exchanges reveal that at least Drs. Tesar and Steidl knew that the results of the Jerini Replitope Report were usable, reliable, and should be “used for the patent,” and also reveal that they specifically selected which results should be and were being used “for the patent”—and yet the Jerini Replitope Results never were submitted to the Patent Office.

343. Mr. Wiegel knew of and relied upon the MOR03080 epitope results from the Jerini Replitope Report, and in fact specifically communicated the Jerini Replitope Report to Celgene in May 2013. Celgene asked for “a summary of the results of the MOR3080 epitope mapping,” and Mr. Wiegel responded, “[p]lease find attached the summary of the MOR3080 epitope mapping.” Mr. Wiegel attached only the Jerini Replitope Report, in its entirety:

Sender: Paul Wiegel </O=MORPHOSYS_GMBH/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=PAULW>
Sent: Wednesday, May 29, 2013 11:05:45 AM
Recipient: Carla Kuhner <ckuhner@celgene.com>
Cc: Konstantin Petropoulos <Konstantin.Petropoulos@morphosys.com>; Ariel Jasie <ajasie@celgene.com>
Subject: RE: MOR3080 epitope MAP
Attachments: Antibody_Profiling_Tesar-8190_final.pdf

Dear Carla

Thanks for your patience. Please find attached the summary of the MOR3080 epitope mapping. Please let me know if you would like to discuss.

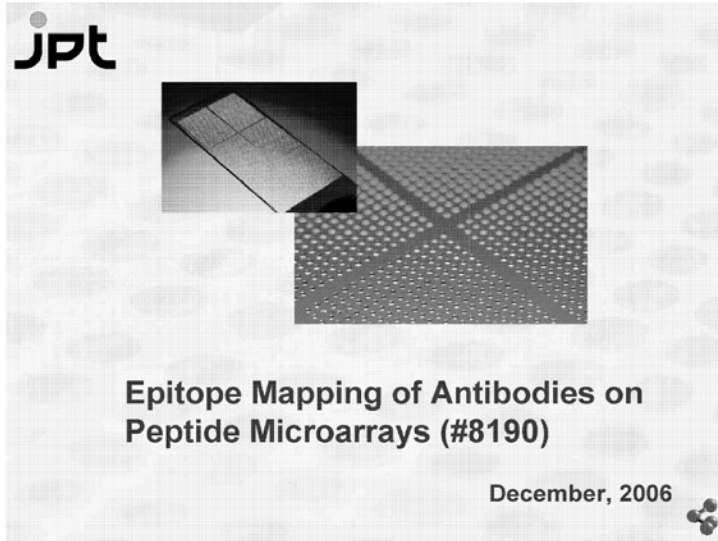
Kind regards,

Paul

Paul F. Wiegel, J.D., LL.M.
Associate Director, Intellectual Property
U.S. Patent Attorney

MorphoSys AG
Lena-Christ-Str. 48
D-82152 Planegg-Martinsried

MSYS_00575470.



MSYS_00575472.

344. Mr. Wiegel also knew of MorphoSys’s reliance on the Jerini Replitope Report for MOR03087 epitope data. *See* MSYS_01679593 (Mar. 1 2013 email to Wiegel), listing epitopes “found for MOR03087” including “58-70,” “82-102,” “116-130,” “176-200,” and “272-288”:

Paul Wiegel

From: Roy Elyenstein
Sent: Freitag, 1. März 2013 15:41
To: Jan Endell; Stéphane Leclair; Paul Wiegel; Daniel Weinfurtner; Konstantin Petropoulos
Subject: RE: Genmabs epitope claim
Attachments: 3087_epitope_backside.png; 3087_epitope_frontside.png; 3087_epitope_backside_cartoon.png

Dear all,

here is the CD38 with epitope colored per region which was found for MOR03087. Same orientation! Also as cartoon representation.

Legend:

Color	→	region
Red	→	58-70
Orange	→	82-102
Yellow	→	116-130
Brown	→	176-200
Pink+Violet (overlap)	→	272-288

For further questions, please drop me a line or give me a call.

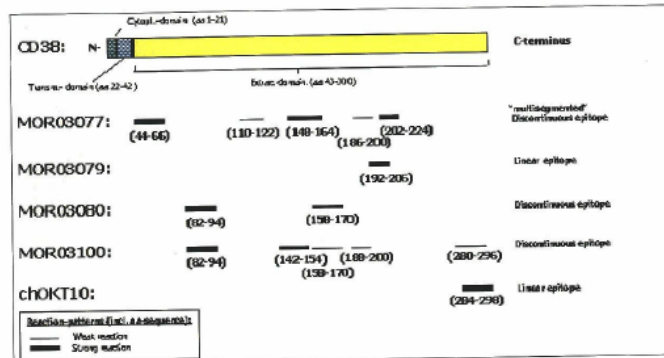
Best, Roy

MSYS_01679593.

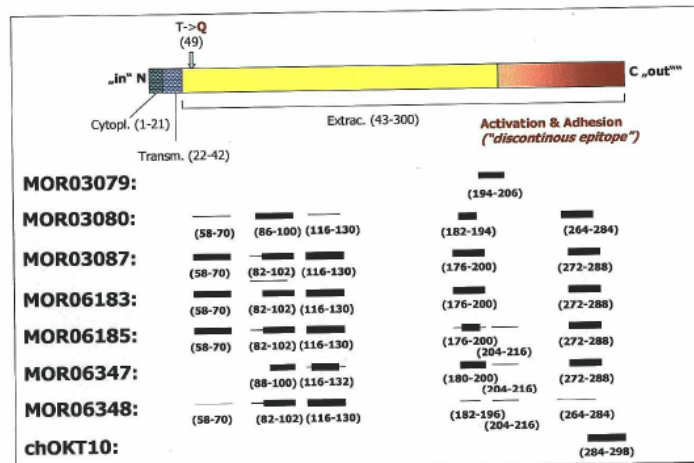
345. Moreover, Mr. Wiegel knew that MorphoSys had obtained conflicting epitope results for MOR03080, and that only the initial results had been disclosed to the Patent Office. Mr. Wiegel is listed as custodian of MSYS_00387361, which compares “[e]pitope mapping”

results, and lists Figure 7 epitope data for MOR03080, noting in the caption that this data is “From... CD38 patent,” and directly below, listing the entirely different Jerini Replitope Report epitope data for MOR03080, with the caption “fort he [sic] project transfer (3rd June 2008)”:

Epitope mapping



From CD38 final report and CD38 patent



From the summary of MOR03087 data fort he project transfer (3rd June 2008)

MSYS_00387361.

346. A copy of this same comparison figure, with the same captions noting use of the top results in the “CD38 patent,” also was sent to Dr. Tesar on Sep. 6, 2010. See MSYS_00414162, attaching MSYS_00414163.

347. The **only** reasonable conclusion from this evidence is that at least Dr. Tesar, Dr. Steidl, Dr. Sproll, and Mr. Wiegel acted with specific intent to deceive the Patent Office.

They were more concerned with obtaining their patents than with their duty of candor to the Patent Office.

348. **Summary:** In support of Figure 7—the sole support for every epitope-based claim in every Patent-in-Suit—MorphoSys submitted to the Patent Office only the results from the initial Jerini 3571 Report, and did not submit the contradictory results of the Jerini Replitope Report obtained from the same “state of the art” vendor—despite MorphoSys’s own extensive reliance (without qualification) on that same data, and despite the lead inventor explicitly stating his belief that the Jerini Replitope Report results had been “used for the patent.” Ex. 1173.

349. Drs. Tesar, Steidl, and Sproll, Mr. Wiegel, and other individuals associated with the filing or prosecution of the patent applications, did not disclose to the Patent Office the Jerini Replitope Report. The Jerini Replitope Report not only directly contradicts the Figure 7 epitope for MOR03080, but also calls into question the reliability of every epitope region reported in Figure 7 of the Patents-in-Suit—the very figure upon which all epitope claims in the Patents-in-Suit are based.

350. Figure 7, with MOR03080 results corrected to show the contradictory epitope from the Jerini Replitope Report, is shown below:



351. Drs. Tesar, Steidl, and Sproll, Mr. Wiegel, and other individuals associated with the filing or prosecution of the patent applications, also did not disclose to the Patent Office other results that contradicted Figure 7, including the NMI MapART peptide mapping results, the NMI EST report, the Fc-fusion ELISA, or the Malavasi Competition Experiment results.

352. Furthermore and in particular, Dr. Steidl's changing deposition testimony regarding the reliability of the Jerini Replitope Report and his criticism of that report despite MorphoSys's own reliance on it are strong evidence of intent to deceive the Patent Office.

353. On information and belief, the instruction to withhold anti-CD38 epitope mapping information came from the highest levels of the company—for example, MorphoSys Chief Scientific Officer Dr. Sproll wrote to CD38 project scientists in 2005 that “[w]ith regard to further work on the epitope mapping [of] CD38: Please keep in mind that we at first have to ensure with IP that we do not compromise our already files [sic] patent application!!” Ex. 1124. This is strong evidence that MorphoSys was aware of its duty to report contradictory results, yet intended to “ensure” that its actions did not “compromise” the already filed patent applications.

354. The single most reasonable conclusion (and indeed the only credible conclusion) from this evidence is Dr. Tesar, Dr. Steidl, Dr. Sproll, and/or Mr. Wiegel, and potentially other individuals associated with the filing or prosecution of the patent applications, acted with specific intent to deceive the Patent Office.

**First Claim for Relief
(Unenforceability of the '746 Patent)**

355. MorphoSys brought an action against Janssen for alleged infringement of the '746 Patent.

356. The '746 Patent is unenforceable due to inequitable conduct for the reasons set forth in paragraphs 198 to 354 above, incorporated herein by reference. MorphoSys's conduct renders this case exceptional under 35 U.S.C. § 285.

357. An actual and justiciable controversy exists between the parties with respect to the '746 Patent. Janssen is entitled to a declaratory judgment that the '746 Patent is unenforceable.

**Second Claim for Relief
(Unenforceability of the '061 Patent)**

358. MorphoSys brought an action against Janssen for alleged infringement of the '061 Patent.

359. The '061 Patent is unenforceable due to inequitable conduct for the reasons set forth in paragraphs 198 to 354 above, incorporated herein by reference. MorphoSys's conduct renders this case exceptional under 35 U.S.C. § 285.

360. An actual and justiciable controversy exists between the parties with respect to the '061 Patent. Janssen is entitled to a declaratory judgment that the '061 Patent is unenforceable.

**Third Claim for Relief
(Unenforceability of the '590 Patent)**

361. MorphoSys brought an action against Janssen for alleged infringement of the '590 Patent.

362. The '590 Patent is unenforceable due to inequitable conduct for the reasons set forth in paragraphs 198 to 354 above, incorporated herein by reference. MorphoSys's conduct renders this case exceptional under 35 U.S.C. § 285.

363. An actual and justiciable controversy exists between the parties with respect to the '590 Patent. Janssen is entitled to a declaratory judgment that the '590 Patent is unenforceable.

PRAYER FOR RELIEF

WHEREFORE, Janssen respectfully requests the following relief:

(a) the entry of judgment on the Second Amended Complaint in favor of Janssen, and against MorphoSys, with MorphoSys not being awarded any relief;

(b) the entry of judgment that Janssen has not infringed and is not infringing any valid and enforceable claim of the '746, '061, or '590 Patents, either directly or indirectly, contributorily or by inducement, literally or under the doctrine of equivalents;

(c) the entry of judgment that each and every claim of the '746, '061, or '590 Patents is invalid;

(d) a declaratory judgment that the '746, '061, and '590 Patents are unenforceable;

(e) denial of MorphoSys's request for damages, attorney fees, costs, and expenses;

(f) a declaration that this is an "exceptional case" within the meaning of 35 U.S.C. § 285, and an award to Janssen of its expenses, costs and attorneys' fees; and

(g) an award to Janssen of such other and further equitable or legal relief as the Court deems just and proper.

MORRIS, NICHOLS, ARSHT & TUNNELL LLP

/s/ Brian P. Egan

Jack B. Blumenfeld (#1014)

Brian P. Egan (#6227)

1201 North Market Street

P.O. Box 1347

Wilmington, DE 19899

(302) 658-9200

jblumenfeld@mnat.com

began@mnat.com

Attorneys for Defendant Janssen Biotech, Inc.

OF COUNSEL:

Michael A. Morin

David P. Frazier

Emily K. Sauter

LATHAM & WATKINS LLP

555 Eleventh Street, NW, Suite 1000

Washington, DC 20004

(202) 637-2200

Roger J. Chin

LATHAM & WATKINS LLP

505 Montgomery Street, Suite 2000

San Francisco, CA 94111

(415) 391-0600

Michael R. Seringhaus

LATHAM & WATKINS LLP

140 Scott Drive

Menlo Park, CA 94306

(650) 328-4600

March 5, 2018

EXHIBIT B

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

MORPHOSYS AG,)	
)	
Plaintiff,)	
)	
v.	)	C.A. No. 16-221 (LPS) (CJB)
)	
JANSSEN BIOTECH, INC.,	)	<u>CONTAINS CONFIDENTIAL</u>
GENMAB US, INC. and GENMAB A/S,	)	<u>INFORMATION – FILED UNDER</u>
	)	<u>SEAL</u>
Defendants.)	

DEFENDANT JANSSEN BIOTECH, INC.’S AMENDED
ANSWER TO SECOND AMENDED COMPLAINT AND COUNTERCLAIMS

Defendant Janssen Biotech, Inc. (“Janssen”) submits this Amended Answer to the Second Amended Complaint filed by Plaintiff MorphoSys AG (“MorphoSys”) on October 11, 2017 (D.I. 205, the “Second Amended Complaint”). To the extent not specifically admitted in the following paragraphs, the allegations in the Second Amended Complaint are denied.

PARTIES¹

1. Janssen is without information or knowledge sufficient to form a belief as to the truth of the allegations in paragraph 1 of the Second Amended Complaint, and therefore denies them.

2. Janssen is without information or knowledge sufficient to form a belief as to the truth of the allegations in paragraph 2 of the Second Amended Complaint, and therefore denies them.

3. Janssen admits the allegations in paragraph 3 of the Second Amended Complaint.

¹ Solely for convenience and clarity, Janssen has repeated herein the headings used by MorphoSys in the Second Amended Complaint. Although Janssen need not respond to headings, Janssen nonetheless denies the contents of the headings to the extent they can be construed to contain substantive allegations.

4. This paragraph is not directed to Janssen and therefore no response by Janssen is required. To the extent a response is deemed required, Janssen admits that Defendant Genmab A/S is a biotechnology company founded in Denmark with its principal place of business at Kalvebod Brygge 43, 1560 Copenhagen V, Denmark (previously Bredgade 34E, 1260 Copenhagen K, Denmark) based upon information and belief.

5. This paragraph is not directed to Janssen and therefore no response by Janssen is required. To the extent a response is deemed required, Janssen admits the allegations in paragraph 5 of the Second Amended Complaint based upon information and belief.

NATURE OF THE ACTION

6. Janssen admits that MorphoSys purports to assert infringement of United States Patent Nos. 8,263,746 (the “’746 Patent”), 9,200,061 (the “’061 Patent”), and 9,758,590 (the “’590 Patent”) under the Patent Laws of the United States, 35 U.S.C. §§ 1 *et seq.* Janssen admits that Darzalex[®] is the registered trade name for daratumumab, and that the current United States Food and Drug Administration (FDA)-approved label for Darzalex[®] indicates that the active ingredient in Darzalex[®] is daratumumab, a CD38-directed cytolytic antibody, indicated for use in combination with lenalidomide and dexamethasone, or bortezomib and dexamethasone, for the treatment of patients with multiple myeloma who have received at least one prior therapy, in combination with pomalidomide and dexamethasone, for the treatment of patients with multiple myeloma who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor (PI), or as monotherapy for the treatment of patients with multiple myeloma who have received at least three prior lines of therapy including a proteasome inhibitor (PI) and an immunomodulatory agent or who are double-refractory to a PI and an immunomodulatory

agent. Janssen denies that MorphoSys is entitled to any relief and denies the remaining allegations in paragraph 6 of the Second Amended Complaint.

JURISDICTION AND VENUE

7. Janssen admits that MorphoSys purports to assert that this Court has jurisdiction over the subject matter of the claims pursuant to 28 U.S.C. §§ 1331 and 1338(a), as alleged in paragraph 7 of the Second Amended Complaint, and admits, solely for the purpose of this action, that Janssen does not contest the existence of subject matter jurisdiction over Counts I–VIII of the Second Amended Complaint to the extent those counts are directed to Janssen.

8. Solely for the purpose of this action, Janssen admits that this Court has personal jurisdiction over Janssen with respect to Counts I–XII of the Second Amended Complaint to the extent those counts are directed to Janssen. Janssen denies the remaining allegations of paragraph 8 of the Second Amended Complaint.

9. Solely for the purpose of this action, Janssen admits that the Court has personal jurisdiction over Janssen with respect to Counts I–XIII of the Second Amended Complaint to the extent those counts are directed to Janssen. Janssen denies the remaining allegations of paragraph 9 of the Second Amended Complaint.

10. This paragraph is not directed to Janssen and therefore no response by Janssen is required. To the extent a response is deemed required, Janssen admits that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen otherwise denies the allegations in paragraph 10 of the Second Amended Complaint.

11. Janssen admits that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen denies the remaining allegations of paragraph 11 of the Second Amended Complaint.

12. This paragraph is not directed to Janssen and therefore no further response by Janssen is required. To the extent a response is deemed required, Janssen admits that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen admits that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the Investigational New Drug Application (IND) and provided input on Janssen's Biologics License Application (BLA) seeking FDA approval for daratumumab. Janssen admits that it is the sole owner and sponsor of the BLA for daratumumab, that Janssen has the exclusive right to market and sell Darzalex[®] (daratumumab) in the United States, and that the Genmab Defendants do not make, use, sell, or offer for sale Darzalex[®] (daratumumab) in the United States, or import Darzalex[®] (daratumumab) into the United States. Janssen denies or otherwise lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 12 of the Second Amended Complaint and therefore denies them.

13. This paragraph is not directed to Janssen and therefore no further response by Janssen is required. To the extent a response is deemed required, Janssen admits that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Upon information and belief, Janssen also admits that Dr. van de Winkel made

statements regarding Darzalex[®] subsequent to that agreement. Janssen admits that Genmab A/S's 2015 Annual Report, cited in paragraph 13 of the Second Amended Complaint, includes the statement: "Together with Janssen, we continue to work on the further development of daratumumab, both within the multiple myeloma space as well as in other cancer indications," in a section of the Report discussing clinical studies and regulatory applications. Janssen denies or otherwise lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 13 of the Second Amended Complaint and therefore denies them.

14. This paragraph is not directed to Janssen and therefore no further response by Janssen is required. To the extent a response is deemed required, Janssen admits that employees of Genmab A/S or its foreign affiliates were involved in the initiation of the preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab, and appear to have taken credit for their participation. Janssen denies the remaining allegations in paragraph 14 of the Second Amended Complaint.

15. This paragraph is not directed to Janssen and therefore no response by Janssen is required. To the extent a response is deemed required, Janssen admits the allegations in paragraph 15 of the Second Amended Complaint upon information and belief.

16. Janssen admits that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen denies the remaining allegations in paragraph 16 of the Second Amended Complaint.

17. Janssen does not dispute venue in this district for the purpose of this action.

FACTUAL BACKGROUND

18. Janssen admits that the '746 Patent is entitled "Anti-CD38 Human Antibodies and Uses Thereof" and that September 11, 2012, is identified on the face of the '746 Patent as its date of issuance. Janssen admits that Exhibit A purports to be a true and correct copy of the '746 Patent. Janssen denies the remaining allegations of paragraph 18 of the Second Amended Complaint.

19. Janssen admits that the '061 Patent is entitled "Generation and Profiling of Fully Human HuCAL Gold®-Derived Therapeutic Antibodies Specific for Human CD3[8]," as corrected by the Certificate of Correction dated May 10, 2016. Janssen admits that December 1, 2015, is identified on the face of the '061 Patent as its date of issuance. Janssen admits that Exhibit B purports to be a true and correct copy of the '061 Patent. Janssen denies the remaining allegations of paragraph 19 of the Second Amended Complaint.

20. Janssen admits that the ~~'059'~~590 Patent is entitled "Anti-CD38 Human Antibodies and Uses Thereof," and that September 12, 2017, is identified on the face of the ~~'059'~~590 Patent as its date of issuance. Janssen admits that Exhibit C purports to be a true and correct copy of the ~~'059'~~590 Patent. Janssen denies the remaining allegations of paragraph 20 of the Second Amended Complaint.

21. Janssen admits that "Morphosys AG" is listed as the assignee on the face of the '746 Patent and refers to the patent for its full and complete contents. Janssen lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 21 of the Second Amended Complaint and therefore denies them.

22. Janssen admits that "Morpho Sys AG" is listed as the assignee on the face of the '061 Patent and refers to the patent for its full and complete contents. Janssen lacks knowledge

or information sufficient to form a belief about the truth of the remaining allegations in paragraph 22 of the Second Amended Complaint and therefore denies them.

23. Janssen admits that “Morpho Sys AG” is listed as the assignee on the face of the ’590 Patent and refers to the patent for its full and complete contents. Janssen lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 23 of the Second Amended Complaint and therefore denies them.

24. Janssen admits that the ’746 Patent is entitled “Anti-CD38 Human Antibodies and Uses Thereof” and refers to the patent for its full and complete contents. Janssen also admits that the ’061 Patent is entitled “Generation and Profiling of Fully Human HuCAL Gold®-Derived Therapeutic Antibodies Specific for Human CD3[8],” as corrected by the Certificate of Correction dated May 10, 2016 and refers to the patent for its full and complete contents. Janssen admits that the ’590 Patent is entitled “Anti-CD38 Human Antibodies and Uses Thereof,” and refers to the patent for its full and complete contents. Janssen admits that CD38 is a surface protein that is expressed by multiple myeloma cells. Janssen lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 24 of the Second Amended Complaint and therefore denies them.

25. Upon information and belief, Janssen admits that multiple myeloma is a common blood cancer that afflicts many people in the United States resulting in many deaths. Janssen denies the remaining allegations in paragraph 25 of the Second Amended Complaint.

26. This paragraph is not directed to Janssen and therefore no response by Janssen is required. To the extent a response is deemed required, Janssen admits that, upon information and belief, certain employees of Genmab A/S or its foreign affiliates invented daratumumab. Janssen also admits that certain employees of Genmab A/S or its foreign affiliates initiated

preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab. Janssen denies the remaining allegations in paragraph 26 of the Second Amended Complaint.

27. Janssen admits that the current FDA-approved label for Darzalex[®] indicates that daratumumab is a CD38-directed cytolytic antibody indicated for use “in combination with lenalidomide and dexamethasone, or bortezomib and dexamethasone, for the treatment of patients with multiple myeloma who have received at least one prior therapy”; “in combination with pomalidomide and dexamethasone, for the treatment of patients with multiple myeloma who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor (PI)”; or “as monotherapy for the treatment of patients with multiple myeloma who have received at least three prior lines of therapy including a proteasome inhibitor (PI) and an immunomodulatory agent or who are double-refractory to a PI and an immunomodulatory agent.” Janssen denies the remaining allegations in paragraph 27 of the Second Amended Complaint.

28. Janssen admits that the current FDA-approved label for Darzalex[®] states that daratumumab is a CD38-directed cytolytic antibody indicated for use “in combination with lenalidomide and dexamethasone, or bortezomib and dexamethasone, for the treatment of patients with multiple myeloma who have received at least one prior therapy”; “in combination with pomalidomide and dexamethasone, for the treatment of patients with multiple myeloma who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor (PI)”; or “as monotherapy, for the treatment of patients with multiple myeloma who have received at least three prior lines of therapy including a proteasome inhibitor (PI) and an immunomodulatory agent or who are double-refractory to a PI and an immunomodulatory

agent.” Janssen admits that Darzalex[®] is administered to patients. Janssen denies the remaining allegations in paragraph 28 of the Second Amended Complaint.

29. Janssen admits that Genmab A/S granted Janssen a worldwide exclusive license for the development, manufacture, and commercialization of daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen denies the remaining allegations in paragraph 29 of the Second Amended Complaint.

30. Janssen admits that Genmab A/S granted Janssen a worldwide exclusive license for the development, manufacture, and commercialization of daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen admits that pursuant to the license agreement, Genmab A/S received from Janssen a \$55 million payment as an upfront license fee and a \$45 million payment associated with the first commercial sale by Janssen in the United States, and certain milestone payments. Janssen also admits that Johnson & Johnson Development Corporation invested DKK 475 million, which correspond to approximately \$80 million, in Genmab A/S shares. Janssen denies the remaining allegations in paragraph 30 of the Second Amended Complaint.

31. Janssen admits that the FDA granted fast track and breakthrough therapy approval to Janssen for Darzalex[®] (daratumumab) on November 16, 2015. Janssen admits that it is the sole owner and sponsor of the BLA for daratumumab, that Janssen has the exclusive right to market and sell Darzalex[®] (daratumumab) in the United States, and that the Genmab Defendants do not make, use, sell, or offer for sale Darzalex[®] (daratumumab) in the United States, or import Darzalex[®] (daratumumab) into the United States. Janssen denies the remaining allegations in paragraph 31 of the Second Amended Complaint.

32. Janssen admits that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen admits that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab. Janssen admits that it is the sole owner and sponsor of the BLA for daratumumab, that Janssen has the exclusive right to market and sell Darzalex[®] (daratumumab) in the United States, and that the Genmab Defendants do not make, use, sell, or offer for sale Darzalex[®] (daratumumab) in the United States, or import Darzalex[®] (daratumumab) into the United States. Janssen denies the remaining allegations of paragraph 32 of the Second Amended Complaint.

33. Janssen admits that Genmab A/S provided Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen admits that it obtained FDA fast track and breakthrough therapy approval to market Darzalex[®] (daratumumab) in November 2015; admits that as the sole owner and sponsor of the BLA for daratumumab, Janssen has had exclusive rights to market and sell Darzalex[®] (daratumumab) in the United States since then; and admits that the Genmab Defendants do not make, use, sell, or offer for sale Darzalex[®] (daratumumab) in the United States, or import Darzalex[®] (daratumumab) into the United States. Upon information and belief, Janssen admits that Genmab A/S has issued media releases reporting the progress of clinical studies relating to daratumumab, and admits that, upon information and belief, these media releases are primarily targeted to investors and potential investors of Genmab A/S. Janssen denies the remaining allegations in paragraph 33 of the Second Amended Complaint.

34. Janssen denies the allegations of paragraph 34 of the Second Amended Complaint.

35. Janssen admits that, as the sole owner and sponsor of the BLA for Darzalex[®] (daratumumab), it promotes, markets, and sells Darzalex[®] (daratumumab) in the United States.

36. Janssen admits that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen admits that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab. Janssen admits that paragraph 36 of the Second Amended Complaint refers to a transcript of a conference call of August 30, 2012, and refers to the transcript for its full and complete contents. Janssen further admits that the transcript indicates with respect to the GEN504 clinical trial, Dr. Van de Winkel stated in part, "Janssen will operationally execute that one, but Genmab will be very, very involved because we wrote the protocol etc. But Janssen will operationally manage that." Janssen denies the remaining allegations in paragraph 36 of the Second Amended Complaint.

37. Janssen admits that United States Patent No. 7,829,673 (the "'673 Patent") indicates it was filed on March 23, 2006, and that "Genmab A/S" is listed as the assignee on the face of the '673 Patent.

38. This paragraph is not directed to Janssen and therefore no further response by Janssen is required. To the extent a response is deemed required, Janssen admits that WO/2005/103083 A2 refers to an antibody called "MOR03079"; admits that PCT publication WO/2005/103083 A2 is cited in the '673 Patent; admits that the PCT publication was cited by Genmab A/S on an Information Disclosure Statement during prosecution of the '673 Patent;

admits that the United States Patent and Trademark Office determined that the subject matter claimed in the '673 Patent was patentable over WO/2005/103083; and admits that the '673 Patent issued on November 9, 2010, before the issuance of the '746 Patent. Janssen also admits that the monoclonal antibody daratumumab is referred to in the specification of the '673 Patent as the "–005 antibody." Janssen admits that the '673 Patent provides data indicating that Genmab's –005 antibody exhibited superior characteristics in comparison to MOR03079. Janssen also admits that the '746 Patent is purportedly the National Phase patent derived from the PCT publication. Janssen otherwise denies the allegations in paragraph 38 of the Second Amended Complaint.

39. Janssen denies the allegations in paragraph 39 of the Second Amended Complaint.

40. Janssen admits that the current FDA-approved label for Darzalex[®] (daratumumab) indicates that daratumumab "binds to CD38 and inhibits the growth of CD38 expressing tumor cells." Janssen admits that the determination of where an antibody binds on a specific antigen may depend on the test used, and that no such determination for daratumumab has been made using the "PepSpot-Analysis" described in the '746 Patent. Janssen admits that paragraph 38 of the Second Amended Complaint references a document that states, "[a]mino acids D202, Q272, and especially S274 are essential for daratumumab binding," and admits that these results were not obtained using the "PepSpot-Analysis" described in the '746 Patent. Janssen denies the remaining allegations in paragraph 40 of the Second Amended Complaint.

41. Janssen denies the allegations in paragraph 41 of the Second Amended Complaint.

42. This paragraph is not directed to Janssen and therefore no response is required. To the extent a response is deemed required, Janssen denies the allegations in paragraph 42 of the Second Amended Complaint.

43. Janssen denies the allegations in paragraph 43 of the Second Amended Complaint.

44. Janssen admits that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen admits that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab. Janssen denies the remaining allegations in paragraph 44 of the Second Amended Complaint.

45. Janssen denies the allegations in paragraph 45 of the Second Amended Complaint.

46. Janssen admits that the link provided in paragraph 46 of the Second Amended Complaint links to a webpage that appears to be dated "6-12-2012" and that the web page refers to the '746 Patent, but denies that the '746 Patent issued by June 12, 2012. Janssen lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 46 of the Second Amended Complaint and therefore denies them.

47. Janssen admits that paragraph 47 of the Second Amended Complaint refers to a transcript of a conference call, and refers to the transcript for its full and complete contents. Janssen admits that the transcript indicates that Dr. Van de Winkel stated, in part, that "this patent was known since 2011 and has been studied very carefully. There has been extensive due diligence by Janssen as well as more than 10 other pharma or biotech companies on this patent

case, we believe.” Janssen denies or otherwise lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 47 of the Second Amended Complaint and therefore denies them.

48. Janssen denies the allegations in paragraph 48 of the Second Amended Complaint.

49. Janssen admits that it filed a European Opposition to EP2511297 B1 on January 7, 2016. Janssen also admits that, upon information and belief, Genmab A/S filed a European Opposition to EP2511297 B1 on January 8, 2016. Janssen admits that the ’746 Patent purports to be the National Stage Entry of PCT/IB2005/002476, which was published as Int’l Patent Publ. No. WO2005/103083 and European Patent No. EP2511297 A1. Janssen admits that EP2511297 B1 and the ’746 Patent purport to claim priority to United States Provisional Application Nos. 60/614,471; 60/599,014; 60/553,948; 60/547,584; and 60/541,911. Janssen denies the remaining allegations in paragraph 49 of the Second Amended Complaint.

50. Janssen admits that it knew of the issuance of the ’746 Patent after its issuance. Janssen denies the remaining allegations in paragraph 50 of the Second Amended Complaint.

51. This paragraph is not directed to Janssen and therefore no response by Janssen is required. To the extent a response is deemed required, Janssen admits upon information and belief that the Genmab Defendants knew of the issuance of the ’746 Patent after its issuance, but denies the remaining allegations in paragraph 51 of the Second Amended Complaint.

52. Janssen admits that it learned of the ’061 Patent after its issuance. Janssen denies the remaining allegations in paragraph 52 of the Second Amended Complaint.

53. This paragraph is not directed to Janssen and therefore no response by Janssen is required. To the extent a response is deemed required, Janssen admits upon information and

belief that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance, but denies the remaining allegations in paragraph 53 of the Second Amended Complaint.

54. Janssen admits the allegations in paragraph 54 of the Second Amended Complaint.

55. This paragraph is not directed to Janssen and therefore no response by Janssen is required. To the extent a response is deemed required, Janssen admits, upon information and belief, that the Genmab Defendants knew of the issuance of the '590 Patent after its issuance, but denies the remaining allegations in paragraph 55 of the Second Amended Complaint.

56. Janssen admits that it knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, that it was aware of the '590 ~~patent~~Patent upon its issuance, and that it has sold Darzalex® since then. Janssen admits, on information and belief, that the Genmab Defendants knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, and that they were aware of the '590 Patent upon its issuance. Janssen otherwise denies the allegations in paragraph 56 of the Second Amended Complaint.

57. Janssen admits that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refers to the license agreement for its full and complete contents. Janssen admits that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab. Janssen denies the remaining allegations in paragraph 57 of the Second Amended Complaint.

58. Janssen denies the allegations in paragraph 58 of the Second Amended Complaint.

59. This paragraph is not directed to Janssen and therefore no response by Janssen is required. To the extent a response is deemed required, Janssen denies the allegations in paragraph 59 of the Second Amended Complaint.

60. Janssen denies the allegations in paragraph 60 of the Second Amended Complaint.

61. Janssen denies the allegations in paragraph 61 of the Second Amended Complaint.

62. Janssen denies the allegations in paragraph 62 of the Second Amended Complaint.

63. Janssen denies the allegations in paragraph 63 of the Second Amended Complaint.

64. Janssen admits that the Indications and Usage section of the current FDA-approved label for Darzalex[®] states that “DARZALEX is a CD38-directed cytolytic antibody indicated” “in combination with lenalidomide and dexamethasone, or bortezomib and dexamethasone, for the treatment of patients with multiple myeloma who have received at least one prior therapy”; “in combination with pomalidomide and dexamethasone, for the treatment of patients with multiple myeloma who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor (PI)”; or “as monotherapy, for the treatment of patients with multiple myeloma who have received at least three prior lines of therapy including a proteasome inhibitor (PI) and an immunomodulatory agent or who are double-refractory to a PI and an immunomodulatory agent.” Janssen denies the remaining allegations in paragraph 64 of the Second Amended Complaint.

65. Janssen denies the allegations in paragraph 65 of the Second Amended Complaint.

66. Janssen admits that Janssen is conducting clinical studies in support of additional indications for Darzalex[®] (daratumumab). Janssen denies the remaining allegations in paragraph 66 of the Second Amended Complaint.

COUNT I
(Infringement of the '746'746 Patent by Janssen)

67. Janssen repeats and realleges its responses to paragraphs 1 through 66 of the Second Amended Complaint as if fully set forth herein.

68. Janssen denies the allegations in paragraph 68 of the Second Amended Complaint.

69. Janssen denies the allegations in paragraph 69 of the Second Amended Complaint.

70. Janssen denies the allegations in paragraph 70 of the Second Amended Complaint.

71. Janssen denies the allegations in paragraph 71 of the Second Amended Complaint.

COUNT II
(Infringement of the '746'746 Patent by Genmab)

72. Janssen repeats and realleges its responses to paragraphs 1 through 71 of the Second Amended Complaint as if fully set forth herein.

73. Janssen denies the allegations in paragraph 73 of the Second Amended Complaint.

74. Janssen denies the allegations in paragraph 74 of the Second Amended Complaint.

75. Janssen denies the allegations in paragraph 75 of the Second Amended Complaint.

COUNT III
(Infringement of the '746'746 Patent by Genmab US, Inc.)

76. Janssen repeats and realleges its responses to paragraphs 1 through 75 of the Second Amended Complaint as if fully set forth herein.

77. Janssen denies the allegations in paragraph 77 of the Second Amended Complaint.

78. Janssen denies the allegations in paragraph 78 of the Second Amended Complaint.

79. Janssen denies the allegations in paragraph 79 of the Second Amended Complaint.

COUNT IV
(Infringement of the '746'746 Patent by Janssen/Genmab/Genmab US, Inc.)

80. Janssen repeats and realleges its responses to paragraphs 1 through 79 of the Second Amended Complaint as if fully set forth herein.

81. Janssen denies the allegations in paragraph 81 of the Second Amended Complaint.

82. Janssen denies the allegations in paragraph 82 of the Second Amended Complaint.

83. Janssen denies the allegations in paragraph 83 of the Second Amended Complaint.

84. Janssen denies the allegations in paragraph 84 of the Second Amended Complaint.

85. Janssen denies the allegations in paragraph 85 of the Second Amended Complaint.

COUNT V
(Infringement of the '061 Patent by Janssen)

86. Janssen repeats and realleges its responses to paragraphs 1 through 85 of the Second Amended Complaint as if fully set forth herein.

87. Janssen denies the allegations in paragraph 87 of the Second Amended Complaint.

88. Janssen denies the allegations in paragraph 88 of the Second Amended Complaint.

89. Janssen denies the allegations in paragraph 89 of the Second Amended Complaint.

90. Janssen denies the allegations in paragraph 90 of the Second Amended Complaint.

91. Janssen admits that it received a copy of the '061 Patent at the time MorphoSys sought leave to file the First Amended Complaint and that Janssen knew of the issuance of the '061 Patent after its issuance. Janssen otherwise denies the remaining allegations of paragraph 91 of the Second Amended Complaint.

92. Janssen denies the allegations in paragraph 92 of the Second Amended Complaint.

93. Janssen admits that it received a copy of the '061 Patent at the time MorphoSys sought leave to file the First Amended Complaint and that Janssen knew of the issuance of the

'061 Patent after its issuance. Janssen denies the remaining allegations in paragraph 93 of the Second Amended Complaint.

94. Janssen denies the allegations in paragraph 94 of the Second Amended Complaint.

95. Janssen denies the allegations in paragraph 95 of the Second Amended Complaint.

96. Janssen denies the allegations in paragraph 96 of the Second Amended Complaint.

97. Janssen denies the allegations in paragraph 97 of the Second Amended Complaint.

98. Janssen denies the allegations in paragraph 98 of the Second Amended Complaint.

COUNT VI
(Infringement of the '061 Patent by Genmab)

99. Janssen repeats and realleges its responses to paragraphs 1 through 98 of the Second Amended Complaint as if fully set forth herein.

100. Janssen denies the allegations in paragraph 100 of the Second Amended Complaint.

101. Janssen denies the allegations in paragraph 101 of the Second Amended Complaint.

102. Janssen denies the allegations in paragraph 102 of the Second Amended Complaint.

103. Janssen denies the allegations in paragraph 103 of the Second Amended Complaint.

104. Janssen admits, upon information and belief, that the Genmab Defendants received a copy of the '061 Patent at the time MorphoSys sought leave to file the First Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. Janssen otherwise denies the allegations of paragraph 104 of the Second Amended Complaint.

105. Janssen denies the allegations in paragraph 105 of the Second Amended Complaint.

106. Janssen admits, upon information and belief, that the Genmab Defendants received a copy of the '061 Patent at the time MorphoSys sought leave to file the First Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. Janssen denies the remaining allegations in paragraph 106 of the Second Amended Complaint.

107. Janssen denies the allegations in paragraph 107 of the Second Amended Complaint.

108. Janssen denies the allegations in paragraph 108 of the Second Amended Complaint.

109. Janssen denies the allegations in paragraph 109 of the Second Amended Complaint.

110. Janssen denies the allegations in paragraph 110 of the Second Amended Complaint.

COUNT VII
(Infringement of the '061 Patent by Genmab US, Inc.)

111. Janssen repeats and realleges its responses to paragraphs 1 through 110 of the Second Amended Complaint as if fully set forth herein.

112. Janssen denies the allegations in paragraph 112 of the Second Amended Complaint.

113. Janssen denies the allegations in paragraph 113 of the Second Amended Complaint.

114. Janssen denies the allegations in paragraph 114 of the Second Amended Complaint.

115. Janssen denies the allegations in paragraph 115 of the Second Amended Complaint.

116. Janssen admits, upon information and belief, that the Genmab Defendants received a copy of the '061 Patent at the time MorphoSys sought leave to file the First Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. Janssen otherwise denies the allegations of paragraph 116 of the Second Amended Complaint.

117. Janssen denies the allegations in paragraph 117 of the Second Amended Complaint.

118. Janssen admits, upon information and belief, that the Genmab Defendants received a copy of the '061 Patent at the time MorphoSys sought leave to file the First Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. Janssen denies the remaining allegations in paragraph 118 of the Second Amended Complaint.

119. Janssen denies the allegations in paragraph 119 of the Second Amended Complaint.

120. Janssen denies the allegations in paragraph 120 of the Second Amended Complaint.

121. Janssen denies the allegations in paragraph 121 of the Second Amended Complaint.

122. Janssen denies the allegations in paragraph 122 of the Second Amended Complaint.

COUNT VIII

(Infringement of the '061 Patent by Janssen/Genmab/Genmab US, Inc.)

123. Janssen repeats and realleges its responses to paragraphs 1 through 122 of the Second Amended Complaint as if fully set forth herein.

124. Janssen denies the allegations in paragraph 124 of the Second Amended Complaint.

125. Janssen denies the allegations in paragraph 125 of the Second Amended Complaint.

126. Janssen denies the allegations in paragraph 126 of the Second Amended Complaint.

127. Janssen denies the allegations in paragraph 127 of the Second Amended Complaint.

128. Janssen admits that it received a copy of the '061 Patent at the time MorphoSys sought leave to file the First Amended Complaint and that Janssen knew of the issuance of the '061 Patent after its issuance. Janssen admits, upon information and belief, that the Genmab Defendants received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. Janssen otherwise denies the remaining allegations of paragraph 128 of the Second Amended Complaint.

129. Janssen denies the allegations in paragraph 129 of the Second Amended Complaint.

130. Janssen admits that it received a copy of the '061 Patent at the time MorphoSys sought leave to file the First Amended Complaint and that Janssen knew of the issuance of the '061 Patent after its issuance. Janssen admits, upon information and belief, that the Genmab

Defendants received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. Janssen otherwise denies the allegations in paragraph 130 of the Second Amended Complaint.

131. Janssen denies the allegations in paragraph 131 of the Second Amended Complaint.

132. Janssen denies the allegations in paragraph 132 of the Second Amended Complaint.

133. Janssen denies the allegations in paragraph 133 of the Second Amended Complaint.

134. Janssen denies the allegations in paragraph 134 of the Second Amended Complaint.

135. Janssen denies the allegations of paragraph 135 of the Second Amended Complaint.

COUNT IX
(Infringement of the '590 Patent by Janssen)

136. Janssen repeats and realleges its responses to paragraphs 1 through 135 of the Second Amended Complaint as if fully set forth herein.

137. Janssen denies the allegations in paragraph 137 of the Second Amended Complaint.

138. Janssen denies the allegations in paragraph 138 of the Second Amended Complaint.

139. Janssen denies the allegations in paragraph 139 of the Second Amended Complaint.

140. Janssen denies the allegations in paragraph 140 of the Second Amended Complaint.

141. Janssen admits that it knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, that it was aware of the '590 ~~patent~~Patent upon its issuance, and that it has sold Darzalex[®] since then. Janssen otherwise denies the allegations in paragraph 141 of the Second Amended Complaint.

142. Janssen denies the allegations in paragraph 142 of the Second Amended Complaint.

143. Janssen admits that it knew of the issuance of the '590 Patent after its issuance. Janssen denies the remaining allegations in paragraph 143 of the Second Amended Complaint.

144. Janssen denies the allegations in paragraph 144 of the Second Amended Complaint.

145. Janssen denies the allegations in paragraph 145 of the Second Amended Complaint.

146. Janssen denies the allegations in paragraph 146 of the Second Amended Complaint.

147. Janssen denies the allegations in paragraph 147 of the Second Amended Complaint.

COUNT X
(Infringement of the '590 Patent by Genmab)

148. Janssen repeats and realleges its responses to paragraphs 1 through 147 of the Second Amended Complaint as if fully set forth herein.

149. Janssen denies the allegations in paragraph 149 of the Second Amended Complaint.

150. Janssen denies the allegations in paragraph 150 of the Second Amended Complaint.

151. Janssen denies the allegations in paragraph 151 of the Second Amended Complaint.

152. Janssen denies the allegations in paragraph 152 of the Second Amended Complaint.

153. Janssen admits, on information and belief, that the Genmab Defendants knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, that they were aware of the '590 Patent upon its issuance, and that Janssen has sold Darzalex[®] since then. Janssen otherwise denies the allegations in paragraph 153 of the Second Amended Complaint.

154. Janssen denies the allegations in paragraph 154 of the Second Amended Complaint.

155. Janssen admits, upon information and belief, that the Genmab Defendants knew of the issuance of the '590 Patent after its issuance. Janssen otherwise denies the allegations in paragraph 155 of the Second Amended Complaint.

156. Janssen denies the allegations in paragraph 156 of the Second Amended Complaint.

157. Janssen denies the allegations in paragraph 157 of the Second Amended Complaint.

158. Janssen denies the allegations in paragraph 158 of the Second Amended Complaint.

159. Janssen denies the allegations in paragraph 159 of the Second Amended Complaint.

COUNT XI
(Infringement of the '590 Patent by Genmab US, Inc.)

160. Janssen repeats and realleges its responses to paragraphs 1 through 159 of the Second Amended Complaint as if fully set forth herein.

161. Janssen denies the allegations in paragraph 161 of the Second Amended Complaint.

162. Janssen denies the allegations in paragraph 162 of the Second Amended Complaint.

163. Janssen denies the allegations in paragraph 163 of the Second Amended Complaint.

164. Janssen denies the allegations in paragraph 164 of the Second Amended Complaint.

165. Janssen admits, upon information and belief, that the Genmab Defendants knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, that they were aware of the '590 Patent upon its issuance, and that Janssen has sold Darzalex[®] since then. Janssen otherwise denies the allegations in paragraph 165 of the Second Amended Complaint.

166. Janssen denies the allegations in paragraph 166 of the Second Amended Complaint.

167. Janssen, admits, upon information and belief, that the Genmab Defendants knew of the issuance of the '590 Patent after its issuance. Janssen otherwise denies the remaining allegations in paragraph 167 of the Second Amended Complaint.

168. Janssen denies the allegations in paragraph 168 of the Second Amended Complaint.

169. Janssen denies the allegations in paragraph 169 of the Second Amended Complaint.

170. Janssen denies the allegations in paragraph 170 of the Second Amended Complaint.

171. Janssen denies the allegations in paragraph 171 of the Second Amended Complaint.

COUNT XII

(Infringement of the '590 patentPatent by Janssen/Genmab/Genmab US, Inc.)

172. Janssen repeats and realleges its responses to paragraphs 1 through 171 of the Second Amended Complaint as if fully set forth herein.

173. Janssen denies the allegations in paragraph 173 of the Second Amended Complaint.

174. Janssen denies the allegations in paragraph 174 of the Second Amended Complaint.

175. Janssen denies the allegations in paragraph 175 of the Second Amended Complaint.

176. Janssen denies the allegations in paragraph 176 of the Second Amended Complaint.

177. Janssen admits that it knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, that it was aware of the '590 ~~patent~~Patent upon its issuance, and that it has sold Darzalex[®] since then. Janssen admits, on information and belief, that the Genmab Defendants knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, and that they were aware of the '590 Patent upon its issuance. Janssen otherwise denies the allegations in paragraph 177 of the Second Amended Complaint.

178. Janssen denies the allegations in paragraph 178 of the Second Amended Complaint.

179. Janssen admits that it knew of the issuance of the '590 Patent after its issuance. Janssen admits, upon information and belief, that the Genmab Defendants knew of the issuance of the '590 Patent after its issuance. Janssen otherwise denies the allegations in paragraph 179 of the Second Amended Complaint.

180. Janssen denies the allegations in paragraph 180 of the Second Amended Complaint.

181. Janssen denies the allegations in paragraph 181 of the Second Amended Complaint.

182. Janssen denies the allegations in paragraph 182 of the Second Amended Complaint.

183. Janssen denies the allegations in paragraph 183 of the Second Amended Complaint.

184. Janssen denies the allegations of paragraph 184 of the Second Amended Complaint.

MORPHOSYS'S PRAYER FOR RELIEF

185. Janssen reasserts and incorporates herein by reference its responses to Paragraphs 1 through 184 of the Second Amended Complaint and denies that MorphoSys is entitled to any relief or judgment against Janssen whatsoever, including the relief requested in paragraphs A–F of the Second Amended Complaint. All allegations not specifically admitted are denied.

DEMAND FOR JURY TRIAL

186. Janssen acknowledges that the Second Amended Complaint sets forth a demand for trial by jury.

AFFIRMATIVE DEFENSES

187. — Janssen hereby asserts the following defenses, undertaking the burden of proof only to the extent required by law:

FIRST DEFENSE (Noninfringement)

188. — The making, using, offering to sell, selling and/or importing into the United States of the accused antibody product, Darzalex[®] (daratumumab) has not infringed, does not infringe, and would not, if made, used, sold, offered for sale, and/or imported into the United States, directly or indirectly infringe any valid and enforceable claim of the '746, '061, or '590 Patents, either literally or under the doctrine of equivalents.

SECOND DEFENSE

(No Induced Infringement)

189. _____ Janssen has not induced, does not induce, and will not induce infringement of any valid and enforceable claim of the '746, '061, or '590 Patents.

THIRD DEFENSE

(No Contributory Infringement)

190. _____ Janssen has not contributed, does not contribute, and will not contribute to infringement of any valid and enforceable claim of the '746, '061, or '590 Patents.

FOURTH DEFENSE

(Invalidity)

191. _____ The claims of the '746, '061, or '590 Patents are invalid for failure to satisfy one or more of the requirements of the patent laws of the United States, including but not limited to, 35 U.S.C. §§ 101, 102, 103, or 112.

FIFTH DEFENSE

(Failure to State a Claim)

192. _____ The Second Amended Complaint fails to state a claim upon which relief can be granted.

SIXTH DEFENSE

(Prosecution History Estoppel)

193. _____ MorphoSys's claims are barred, in whole or in part, by representations or actions taken during the prosecution of the '746, '061, or '590 Patents, and related patents and applications, under the doctrine of prosecution-history estoppel, or prosecution disclaimer.

SEVENTH DEFENSE

(35 U.S.C. § 288)

194. _____ MorphoSys is not entitled to seek recovery of its costs pursuant to 35 U.S.C. § 288.

EIGHTH DEFENSE
(Exceptional Case)

195. ——— This case is exceptional under 35 U.S.C. § 285. Janssen is entitled to an award of its attorneys’ fees in connection with defending and prosecuting this action.

NINTH DEFENSE
(Inequitable Conduct)

196. The ’746, ’061, and ’590 Patents are unenforceable due to inequitable conduct, for the reasons set forth in paragraphs 198 to 354 of the Counterclaim, set forth below.

RESERVATION OF RIGHTS

197. ——— In filing the defenses, Janssen has not knowingly or intentionally waived any applicable defenses. Janssen reserves the right to assert and rely upon any other applicable defenses that may become available or apparent during the course of this action. Janssen reserves the right to amend or to seek to amend its answer or affirmative defenses.

COUNTERCLAIMS
(Declaratory Judgment of Unenforceability)

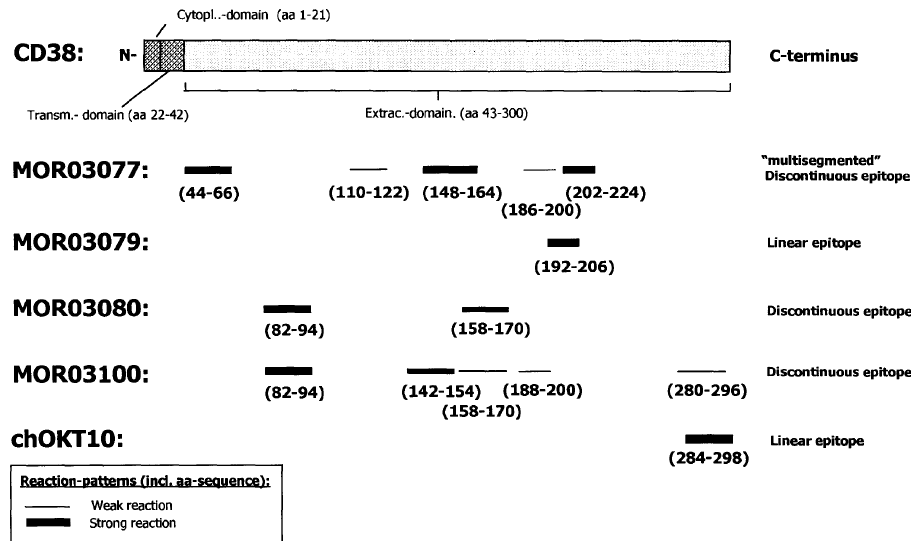
198. This is a counterclaim for declaratory judgment pursuant to 28 U.S.C. §§ 2201 and 2202 for the purpose of determining an actual and justiciable controversy between the parties. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338 (a).

The Patents-in-Suit

199. The ’746, ’061, and ’590 Patents all include claims to antibodies that bind to the naturally occurring protein CD38, and methods of using those antibodies. In an effort to distinguish these antibodies from those in the prior art, the claims define them, in whole or in part, according to their ability to bind specific regions of amino acids on the CD38 protein. For example, claim 15 of the ’746 Patent claims an antibody that “specifically binds within amino acids 44-66, 82-94, 142-154, 148-164, 158-170, or 192-206 of CD38 (SEQ ID NO: 22).” ’746

Patent 68:45-48 (claim 15). The patents define the regions of CD38 to which the claimed antibodies bind as their “epitope.” All three patents base these epitope claims solely on the data shown in Figure 7, described as “a schematic overview of epitopes of representative antibodies of the present invention” from a “PepSpot analysis” (’746 Patent at 5:23-24, 27:5-9):

Fig.7: Schematic Overview of Epitopes



200. Figure 7 sets forth the “purported” epitopes of four disclosed antibodies: MOR03077, MOR03079, MOR03080, and MOR03100. For example, MOR03080 is shown to bind an epitope consisting of amino acid regions 82-94 and 158-170 of CD38, whereas MOR03079 is shown to bind an epitope consisting of positions 192-206 of CD38. The prior art chOKT10 antibody is reported to bind an epitope consisting of amino acid region 284-298, which lies in the C-terminal region of CD38

201. Based solely on this Figure 7 data, the specifications of all three patents report that for MOR03080 the epitope “peptides comprise aa 82-94 and aa 158-170,” whereas “[t]he epitope for MOR03079 can be postulated within aa 192-206 (VSRRFAEAACDVVHV (SEQ ID NO: 38)) of CD38....” For MOR03077, the postulated epitope “includes aa 44-66, 110-122, 148-

164, 186-200 and 202-224,” and for MOR3100, the epitope peptides comprise “aa 82-94, 142-154, 158-170, 188-200 and 280-296.” See ’746 Patent 27:22-36; ’061 Patent 26:38-52; ’590 Patent 24:39-53 (all Example 6).

202. Based solely on the epitope results presented in Figure 7, the Patents-in-Suit claim antibodies by their epitopes, and include claims directed specifically to any human or humanized antibodies that specifically bind within amino acids 82-94 and 158-170 (corresponding to MOR03080).

203. Both the ’746 and ’061 Patents claim specific antibodies (and methods of using them) that bind the epitope disclosed in Figure 7 for MOR03080, namely the amino acid regions 82-94 and 158-170 of CD38. These claims include ’746 Patent asserted claim 15 (“specifically binds within amino acids 44-66, **82-94**, 142-154, 148- 164, **158-170**, or 192-206 of CD38”); ’746 Patent claim 19 (“specifically binds within amino acids **82-94** or **158-170** of CD38”); ’746 Patent claim 20 (“specifically binds within amino acids **82-94** or **158-170** of CD38”); ’061 Patent claim 3 (“binds an epitope of CD38 that contains one or more amino acid residues within **82-94 and 158-170**”); and ’061 Patent claims 5 through 15 (multiple dependent on claim 3). Although the ’590 Patent does not include claims drawn specifically to the MOR03080 ranges 82-94 and 158-170, such claims were repeatedly sought during prosecution of that patent—at which point MorphoSys directed the examiner to the same Figure 7 data for support. See ’590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 15. In addition, the ultimately issued claims, while directed to other amino acid sequences, likewise rely on Figure 7 for support.

Prosecution of the Patents-in-Suit

204. During prosecution, MorphoSys relied exclusively on Figure 7 as the sole written description support for its claimed epitope ranges.

205. For example, during prosecution of the '746 Patent, MorphoSys submitted new claims 142-148 directed to, e.g., “[a]n isolated antibody or antibody fragment thereof containing an antigen-binding region... which specifically binds within amino acids **82-94** or **158-170** of CD38”—a region identical to disclosed epitopes for MOR03080 in Figure 7. In its accompanying applicant remarks, MorphoSys told the Examiner that “[s]upport for these claims can be found, for example, at Figure 7 and ¶¶ 0136-0138 of the published specification.” ’746 Patent file history, Oct. 18, 2011 Response to Non-Final Rejection at 8. (The paragraphs of the published specification to which MorphoSys directed the Examiner, ¶¶ 0136-0138, describe only the results shown in Figure 7; these same paragraphs appear in each Patent-in-Suit as the “Summary and Conclusions” of Example 6, which is titled “Epitope Mapping.”) MorphoSys patent attorney Paul Wiegel also attended a telephonic interview during which the Examiner and MorphoSys’s representatives discussed epitopes for then-pending claims 100 and 101, and compared these claimed epitopes with those in the prior art. *See* ’746 Patent file history, Oct. 14, 2011 Applicant-Initiated Interview Summary at 2. (Then-pending claim 101 is directed to epitopes comprising 44-66, **82-94**, 142-154, 148-164, **158-170**, or 192-206 of CD38, and includes specifically recited regions corresponding to the Figure 7 epitope of MOR03080.)

206. During prosecution of the '061 Patent, MorphoSys continued to tie claims explicitly to the epitopes identified in Figure 7, particularly MOR03080. For example, MorphoSys patent attorney Paul Wiegel signed and submitted an Amendment on June 17, 2015, again including claims based entirely and exclusively on the purported MOR03080 epitope shown in Figure 7 (*see, e.g.*, then-pending claim 30, directed to binding “an epitope of CD38 that contains one or more amino acid residues within **82-94** and **158-170**” of CD38). *See* ’061 Patent file history, June 17, 2015 Response after Final Rejection at 2 (containing claim amendments).

In this Amendment, Mr. Wiegel stated that “the Examiner acknowledged that the specification provides support for the epitopes recited in claims 28-31.” ’061 Patent file history, June 17, 2015 Response after Final Rejection at 5. (The Examiner had indeed done so in an earlier Office Action, relying exclusively and explicitly on Figure 7 for support for this conclusion. See ’061 Patent file history, Apr. 20, 2015 Final Rejection at 4-6.)

207. Likewise during prosecution of the ’590 Patent, MorphoSys again sought claims directed to the MOR03080 epitope regions 82-94 and 158-170. First, Mr. Wiegel signed and submitted a Dec. 4, 2015 preliminary amendment, in which MorphoSys sought claim 85 (including residues **82-94** and **158-170** of CD38), claim 109 (directed to an antibody “that binds to a CD38 peptide consisting of amino acid residues **82-94** of CD38”), and claim 110 (directed to an antibody that “binds to a CD38 peptide consisting of amino acid residues **158-170** of CD38), all of which are based on the Figure 7 epitope for MOR03080. See ’590 Patent file history, Dec. 4, 2015 Preliminary Amendment at 15. Next, in a Feb. 4, 2016 amendment again signed and submitted by Mr. Wiegel, MorphoSys sought claim 115 (including residues **82-94** and **158-170** of CD38), claim 140 (directed to an antibody “that binds to a CD38 peptide of amino acid residues **82-94** of CD38”), and claim 141 (directed to an antibody that “binds to a CD38 peptide of amino acid residues **158-170** of CD38). See ’590 Patent file history, Feb. 4, 2016 Preliminary Amendment at 2. MorphoSys and Mr. Wiegel again pointed the Examiner to “Figure 7 and paragraph [0146]” of the specification as support for its claims to antibodies binding to “CQSVWDAFKGAFI” and “TWCGEFNTSKINY” (positions **82-94** and **158-170** of CD38, which correspond to the epitope shown in Figure 7 for MOR03080). See ’590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 15.

208. During prosecution, MorphoSys also relied on the epitopes disclosed in Figure 7 to distinguish its claims over the prior art. MorphoSys consistently characterized the prior art as disclosing only anti-CD38 antibodies that bind epitopes in the C-terminal region of CD38. For example, the shared specification of the '746 and '590 Patents states that all known anti-CD38 antibodies “seem to exclusively recognize epitopes (amino acid residues 220 to 300) located in the C-terminal part of CD38,” and that “[n]o antibodies are known so far that are specific for epitopes in the N-terminal part of CD38.” During prosecution of the '746 Patent, MorphoSys distinguished its pending claims from the prior art Logtenberg “UM16” antibody because that prior art antibody competed with OKT10, while “[t]he epitope of the OKT10 antibody has been mapped to residues 280-298 at the carboxyl terminus of the 300 residue CD38 molecule.” See '746 Patent file history, Apr. 8, 2011 Response to Restriction/Election Requirement at 10-11. Mr. Wiegel participated in an Examiner Interview in which he and the Examiner “[d]iscussed epitope of Logtenberg antibody in view of the epitope of the antibody in claims 100 and 101.” See '746 Patent file history, Oct. 14, 2011 Applicant-Initiated Interview Summary. And similarly during prosecution of the '590 Patent, MorphoSys again relied on the Figure 7 epitopes to distinguish its pending claims over the prior art, stating for example that “[a]pplicants respectfully submit that this epitope is novel and not taught or suggested by any of Antonelli, Ikehata or Mallone. Indeed, Applicants are not aware of any prior art that describes this amino acid region [192-206, taken from the Figure 7 epitope for MOR03079].” See '590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 26-27.

209. MorphoSys also explicitly argued during prosecution that its then-pending claims allegedly satisfied the written description requirement under *Noelle* solely because of the epitope regions described in Figure 7:

In the instant case, Applicants’ claim 145 recites an antibody that binds to VSRRFAEAACDVVHV (SEQ ID NO: 38) [192-206 of CD38]. Applicants respectfully submit that Applicants have disclosed a fully characterized, novel antigen by its structure and, under Noelle, ‘the applicant can then claim an antibody by its binding affinity to that described antigen.’ Id. at 1349. Indeed, Applicants respectfully assert that the specification structurally and functionally describes the specifically claimed binding region, which was not known prior to Applicants’ discovery. As such, the novel amino acid sequence recited in Applicants’ claim constitutes a ‘fully characterized’ and to its knowledge ‘novel antigen.’ Accordingly, the instant claims fall squarely within the four corners of Noelle and a finding that the instant claims fully comply with the written description is required.

See ’590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 19-20.

210. MorphoSys further based its written description argument on its alleged possession of antibodies that bind to the epitopes shown in Figure 7, stating for example that “[i]n addition, Applicants have actually reduced to practice the claimed anti-CD38 antibodies that bind to never-before bound regions of that protein, including the amino acid region of VSRRFAEAACDVVHV (SEQ ID NO: 38). So not only did Applicant fully disclose the novel antigens, Applicant generated the claimed antibodies. Therefore the person of skill in the art would appreciate that Applicant was in actual possession of the claimed antibodies.” See id. at 21.

211. Thus, throughout prosecution and within the specifications of the Patents-in-Suit, MorphoSys pointed consistently and unequivocally only to Figure 7 to support its claims involving antibody epitopes on CD38. MorphoSys also explicitly relied on these Figure 7 epitopes during prosecution to distinguish its claims over the prior art, and to argue adequate written description. More specifically, MorphoSys repeatedly sought and obtained claims to antibodies that bound within the regions 82-94 and 158-170 based solely on the Figure 7 data for MOR03080. And MorphoSys did so knowing that the Figure 7 epitope data was at best unreliable—if not outright false—and concealed that fact from the Patent Office.

Deficiencies and Deception with Respect to Figure 7

212. Despite having based its entire patenting strategy on the alleged identification of a series of antibody epitopes to CD38, MorphoSys knew from the time it filed its first patent application that its alleged identification of epitopes rested on an untenable foundation. As detailed below, by late 2006 MorphoSys held in hand data specifically contradicting its Figure 7 binding epitopes. Nonetheless, MorphoSys never updated or corrected its initial reporting of data to the Patent Office, and instead persisted for many years of additional prosecution—indeed it still maintains pending applications—to obtain the '746, '061, and '590 Patents-in-Suit, all based squarely on this same spurious data.

213. In seeking to patent its antibody development activities, MorphoSys faced several problems: Anti-CD38 antibodies were known in the prior art; CD38 was a known target for antibody therapy against multiple myeloma; and MorphoSys's own patent department had already identified competitor patents describing antibodies against CD38 and their use to treat multiple myeloma. Unable to assert that it was first to recognize CD38 as a target, first to make antibodies against CD38, or even first to develop potential antibody therapeutics, MorphoSys needed a way to distinguish its antibodies.

214. MorphoSys could have claimed the specific antibodies it developed and disclosed in the Patents-in-Suit (MOR03077, MOR03079, MOR03080, and MOR03100), but it knew those antibodies were unlikely ever to reach the clinic. MorphoSys gave up on MOR3100 within weeks of filing the first provisional applications from which the Patents-in-Suit claim priority, and although both MOR3079 and MOR3080 were for a time considered as potential leads in its “MOR202” project, they were ultimately found to be unacceptable. MorphoSys abandoned MOR03079, the initial “MOR202” lead candidate, in favor of MOR03080 by March 31, 2004,

see MSYS_00993906, and also selected two “backup” candidates: MOR03087 and MOR06347— completely different antibodies not disclosed in the Patents-in-Suit. See MSYS_00058356; MSYS_00108246. MorphoSys then abandoned MOR03080 by February 2008. See MSYS_00059640. MOR03087 became known as “MOR202,” and emerged as MorphoSys’s sole candidate for use in human clinical trials.

215. Lacking specific examples of antibodies that might actually be developed as human therapies, MorphoSys sought broad claims through which it could assert coverage of the countless varieties of antibodies that its competitors might in the future develop. In short, MorphoSys claimed antibodies by their ability to bind specific regions of CD38 (i.e., according to their epitope).

216. Figure 7 is the sole source of all epitope information in the Patents-in-Suit. Figure 7 is taken directly from a single peptide array experiment performed for MorphoSys by Jerini, an outside vendor. From the start, MorphoSys knew that this peptide array technique was potentially unreliable, particularly with respect to so-called “discontinuous” epitopes (non-contiguous binding sites). Dr. Michael Tesar (a named inventor on all three Patents-in-Suit) questioned how the vendor was able to distinguish certain positive and negative results, and ultimately overrode initial binding site categorizations by the vendor. After MorphoSys had revised Jerini’s report, it gave rise to Figure 7 of the Patents-in-Suit.

217. But later follow-up experiments by the same vendor, Jerini, contradicted Figure 7—revealing a totally different epitope prediction for MOR03080 and so also calling into question the validity of the entire initial experiment. The record shows that MorphoSys adopted these later results internally and used them without reservation in presentations and communications with senior management. MorphoSys even presented these results at

conferences and shared the data with third parties, including Celgene and [REDACTED] [REDACTED]—again underscoring its reliability. MorphoSys updated its own (and others’) understanding of MOR03080’s epitope, with one notable exception: The Patent Office was never told of the change. These later Jerini results were never reported to the Patent Office, despite being available during prosecution and relied upon heavily and without qualification by MorphoSys.

218. *Jerini PepSpot Epitope Mapping Report #3571:* MorphoSys contracted an outside laboratory, Jerini Peptide Technologies (“Jerini” or “JPT”), to conduct epitope mapping using a peptide array technique called “PepSpot.” This involved creating a series of overlapping 13-mer peptides that together spanned the sequence of CD38 protein, arraying these peptides on a cellulose membrane, and evaluating the ability of MorphoSys’s anti-CD38 antibodies to bind to each individual peptide (i.e., assorted individual 13 amino acid regions taken from CD38 sequence).

219. Jerini provided MorphoSys with advance results of this assay on August 21, 2003. Ex. 1101. On September 9, 2003, Dr. Tesar contacted Jerini disputing the identification of certain epitopes and raising questions about the appropriate signal strength threshold for calling epitope binding regions. *See* Ex. 1102 (discussing MOR03079: “Based upon the signal strength, I would also classify the peptide #77 as ‘significantly weaker.’ What is the threshold, and when does a signal become positive? Can you recognize the exact epitope using this analysis[?],” and discussing MOR03080: “why are the peptides #18, #22, #50, or #61, for example, not also mentioned as weakly reacting—they are at least a bit over the background (at least 3 to 5-fold)? What is the threshold for a positive signal here?”). Dr. Tesar further asked Jerini to submit the next report as a Word document so that MorphoSys “can enter the improvements mentioned”

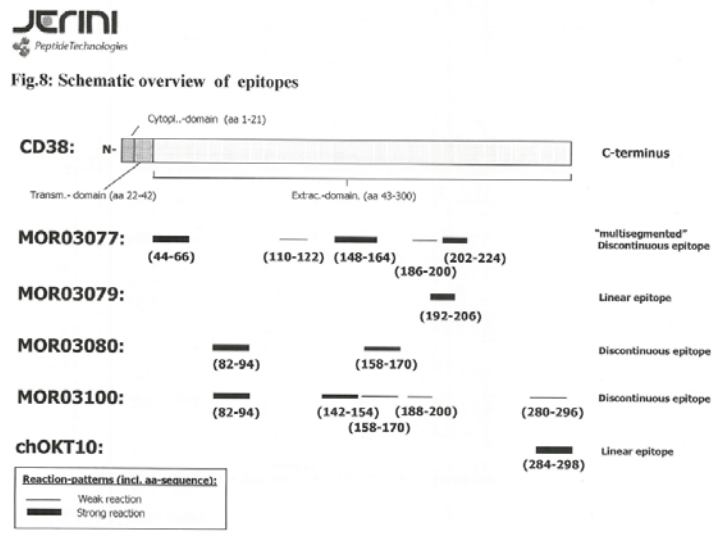
before sending Jerini a final version for signature. *Id.* On October 9, 2003, Jerini provided a report with new data directed to MOR03077, and as instructed, the report was unsigned in a Word document (“Jerini Report 3571”). Ex. 1010. During the ensuing weeks, MorphoSys scientists requested several changes to Jerini Report 3571, including reclassifying some epitope calls for MOR03079 as background noise. Exs. 1003, 1003a. On October 28, 2003, MorphoSys emailed Jerini stating that “we would like to include a few more corrections (added in correction mode) in the final report” and asking Jerini to “please excuse the constant corrections from our side.” Ex. 1105; *see also* Tesar Dep. Tr. at 209:4-14. MorphoSys noted that “[d]ue to the additional insertions, the page with your signature has been bumped onto a new page—the text can probably still be tweaked so that the signature is back on the preceding page.” Ex. 1105.

220. In its final form on October 29, 2003, as modified by MorphoSys, Jerini Report 3571 stated, *inter alia*, that MOR03080 bound to peptides corresponding to regions **82-94** and **158-170** of CD38 protein, whereas MOR03079 bound to peptides corresponding to amino acids **192-206** of CD38. *See* Ex. 1106. Jerini Report 3571 also stated that “[t]he epitopes for MOR03080 and MOR03100 can clearly be considered as discontinuous,” whereas MOR03077 “can be described as a multisegmented discontinuous epitope.” *Id.* at 5. Jerini Report 3571 also stated that “for a more precise epitope definition and determination of key amino acids (main antigen-antibody interaction sites) a shortening of peptides VSRRAEAACDVVHV and FLQCVKNPEDSSCTS and an alanine-scan of both should be envisaged.” *Id.* Neither a peptide shortening nor an alanine scan were performed in Jerini Report 3571.

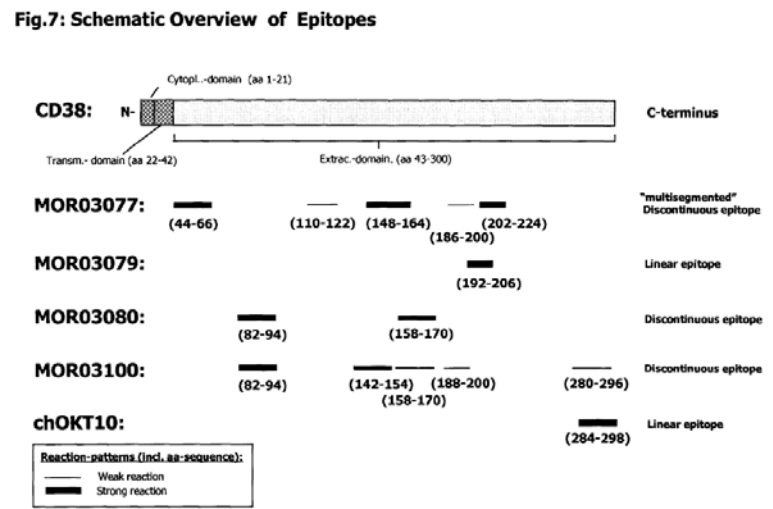
221. MorphoSys submitted Figure 8 of Jerini Report 3571, complete with its epitope designations for the four MorphoSys antibodies, directly and without modification to the Patent

Office, where it now appears as “Figure 7” of the Patents-in-Suit. *See also* Tesar Dep. Tr. at 232:3-233:3 (confirming that Fig. 7 is based on Jerini 3571).

222. Compare the figure as it appears in Jerini Report 3571 (Ex. 1106 Fig. 8 at 16):



with Figure 7 of the Patents-in-Suit:



223. Subsequent Jerini PepSpot Epitope Mapping: Contradictory Results for MOR03080. In the following year, 2006, MorphoSys again contracted Jerini to conduct epitope mapping on a different set of anti-CD38 antibodies (including MOR03087, today known as “MOR202,” MorphoSys’s current clinical lead candidate). MorphoSys included MOR03080

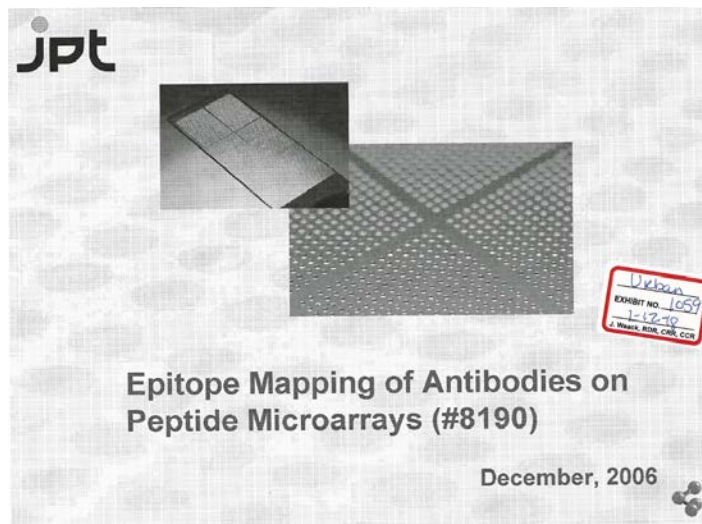
alongside these new antibodies as a control. MorphoSys then used this follow-up testing of MOR03080 internally and without reservation to update the predicted epitopes of MOR03080, as well as to show the epitopes for its clinical lead candidate MOR03087, but concealed it from the Patent Office.

224. *Jerini PepSpot Epitope Mapping Report #8190 (Nov. 2006).* First, Jerini again performed its PepSpot analysis using a cellulose membrane as solid support. On or about November 30, 2006, Jerini issued a report on this testing (“Jerini Report 8190”). See Ex. 1057. Despite the experiment being repeated with the same antibody (MOR03080) and the same membranes and secondary antibodies, Jerini was unable to recover usable data and this experiment failed: Jerini reported that the data could not be analyzed due to excessive background noise, specifically because of interactions between the secondary detection antibody and the arrays themselves. Jerini Report 8190 ultimately stated that “[n]one of the mapping experiments yielded in [sic] detectable binding signals on the peptide array. Due to the high number of false positive signals observed in the control experiments, no reliable information could be obtained from these experiments.” *Id.* at 19. As such, from this study MorphoSys did not obtain epitope information for its ultimate clinical lead candidate (MOR03087), and also was unable to confirm the earlier MOR03080 Jerini predicted epitope (82-94 and 158-170) as reported in Figure 7 of the Patents-in-Suit.

225. MorphoSys internal communications reveal that its scientists were aware of the initial Jerini Report 8190 results no later than December 1, 2006, when Thomas Ast of Jerini emailed the report as an attachment, and Dr. Tesar emailed others at MorphoSys to discuss the results and next steps, stating that “Jerini is now going to try alternatives (glass-slides, direct labelling) in order to get it to work.” Ex. 1058.

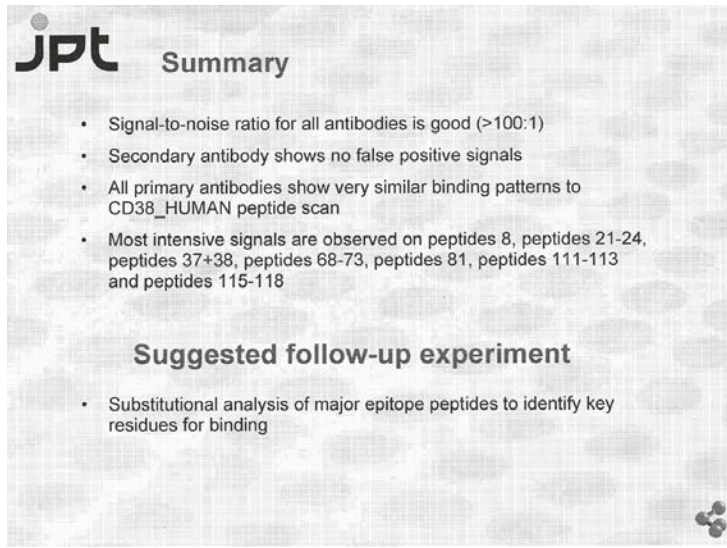
226. Dr. Tesar testified at deposition that he did not communicate this failed Jerini Report 8190 to the Patent Office because it had a “technical issue” and it was a “decision for the patent attorneys to – to decide whether these should be sent or not.” Tesar Dep. Tr. at 267:23-269:23.

227. *Jerini Revised Epitope Mapping Report #8190 on Glass Slides (Dec. 2006).* Shortly thereafter, MorphoSys agreed that Jerini should redo the failed epitope mapping analysis reported in Jerini Report 8190 (see Steidl Dep. Tr. at 251:6-16; Ex. 1173) —but this time, the experiment was to be performed on a glass surface and with three replicates (using the mean signal intensities from three identical subarrays; see Ex. 1059 at slide 5) as well as additional controls (see *id.* at slide 4). This glass-slide technique is another peptide array assay technique that Jerini offers, very similar to PepSpot. Again, MOR03080 was included, as was MOR03087.



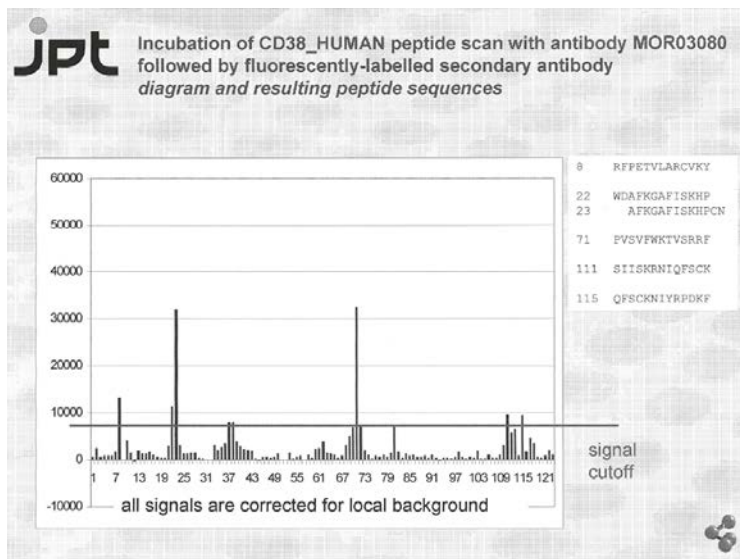
Ex. 1059 at slide 1.

228. On December 1, 2006, Jerini provided the new results in a presentation (“Jerini Replitope Report”), reporting that “[s]ignal to noise ratio for all antibodies is good (>100:1),” and that the “[s]econdary antibody shows no false positive signals”—i.e., that the problems that plagued the initial, failed Jerini Report 8190 had been corrected. Ex. 1059.



Id. at slide 21.

229. This Jerini Replotope Report, which was performed in triplicate on an array technology that Jerini still offers today, reported for MOR03080 that peptides 8, 22-23, 37-38, 71, 111, and 115 were above the “signal cutoff,” which corresponds to an epitope prediction of amino acid positions 58-70, 86-100, 116-130, 184-196, 264-284 of CD38.

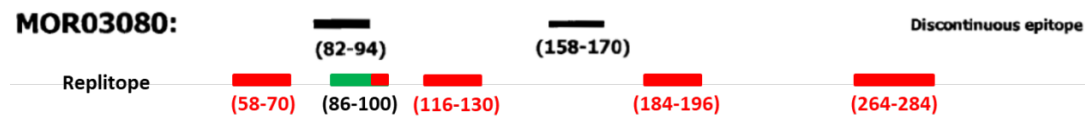


Ex. 1059 at slide 9.

230. The Jerini Replitope Report also reported the epitope for MOR03087 as peptides 8, 22-24, 37-38, 68-73, 81, 111-112, and 115, which corresponds to amino acid positions **58-70, 86-102, 116-130, 178-200, 204-216, 264-284** of CD38. *Id.* at slide 11.

231. This result—which was performed in triplicate by Jerini with “good” signal to noise ratio (>100:1) and no secondary antibody false positives—was declared by Jerini to be “evaluable” (*see* Steidl Dep. Tr. at 251:17-252:1; Ex. 1173) and reveals not only the epitope for MOR03087 (the clinical lead), but also that MOR03080 binds to a completely different epitope than initially believed, directly contradicting the results in the earlier Jerini Report 3571, as well as in Figure 7 of the Patents-in-Suit.

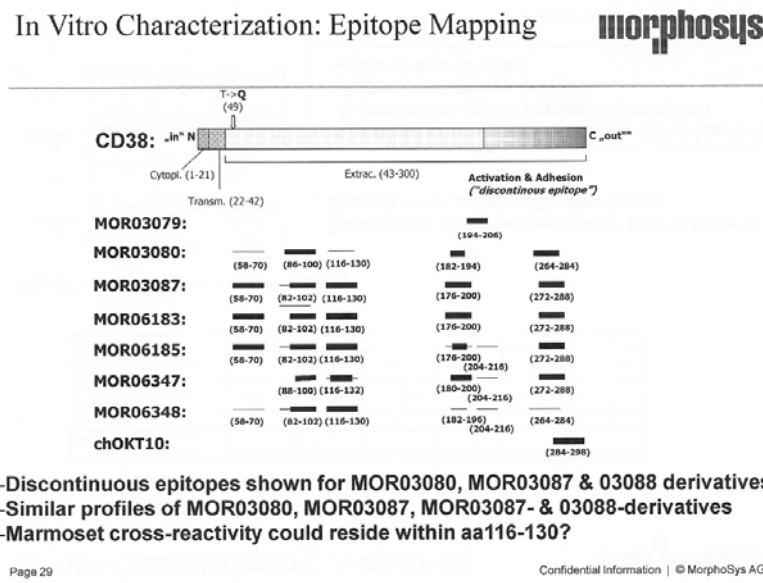
232. Below is a comparison of the MOR03080 data from Figure 7 with the Jerini Replitope Report data for MOR03080 (shown in color). The disclosed Figure 7 epitope for MOR03080, based on Jerini Report 3571, covers 26 total amino acids (positions **82-94** and **158-170** of CD38). The MOR03080 epitope as reported in the later Jerini Replitope Report is *three times longer*, covering 77 amino acids, only eight of which (10%) overlap (shown in green below). The remaining 90% of the MOR03080 epitope as reported by the Jerini Replitope Report (69 non-overlapping amino acids) is shown in red below, and directly contradicts the Figure 7 data in the Patents-in-Suit. As can be seen below, these later (withheld) results were effectively the opposite of the original results, which formed the basis for MorphoSys’s patents:



233. MorphoSys was well aware of this discrepancy. After receiving the Jerini Replitope Report, Dr. Tesar produced a draft slide deck incorporating both sets of MOR03080 results on different slides. *See* MSYS_00079373. Dr. Tesar also incorporated the new Replitope

findings in early 2007 into a PowerPoint presentation that was provided to senior management and presented to the entire scientific staff, without qualification or caveat. Within MorphoSys, the new Jerini Replitope Report results for MOR03080 simply replaced the earlier results (as submitted in Figure 7)—these earlier results are not included anywhere in, for example, this 2007 presentation. In other words, these later “Replitope” results were treated as the correct, updated data, which superseded the prior results reported in the patent application. Yet, putting their interest in patent issuance above their duty of candor to the Patent Office, neither Dr. Tesar nor anyone else at MorphoSys ever informed the Patent Office or updated Figure 7 during the following years of prosecution.

234. Below is a slide from Dr. Tesar’s 2007 presentation, prepared approximately two months after he received the Jerini Replitope Report, which clearly incorporates and presents the new epitope results for MOR03080:



Ex. 1123 at slide 29.

235. Despite attempts during deposition by MorphoSys witnesses to downplay the reliability of the Jerini Replitope Report, contemporaneous communications and presentations

demonstrate that MorphoSys in fact deemed the revised epitope results to be reliable. For example, as detailed more fully below, MorphoSys relied on the Jerini Replitope Report when reporting epitope data of its MOR03087 clinical lead (see, e.g., MSYS_00064221 at slide 26), including when comparing MOR03087 to its Sanofi and Genmab competitors (see, e.g., MSYS_00064221 at slide 84). And in May 2013, third-party collaborator Celgene asked for “a summary of the results of the MOR3080 epitope mapping.” MSYS_00575470. MorphoSys patent attorney Paul Wiegel responded, stating “[p]lease find attached the summary of the MOR3080 epitope mapping,” and attached only the Jerini Replitope Report, in its entirety:

Sender: Paul Wiegel </O=MORPHOSYS_GMBH/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=PAULW>
Sent: Wednesday, May 29, 2013 11:05:45 AM
Recipient: Carla Kuhner <ckuhner@celgene.com>
Cc: Konstantin Petropoulos <Konstantin.Petropoulos@morphosys.com>; Ariel Jasie <ajasie@celgene.com>
Subject: RE: MOR3080 epitope MAP
Attachments: Antibody_Profiling_Tesar-8190_final.pdf

Dear Carla

Thanks for your patience. Please find attached the summary of the MOR3080 epitope mapping. Please let me know if you would like to discuss.

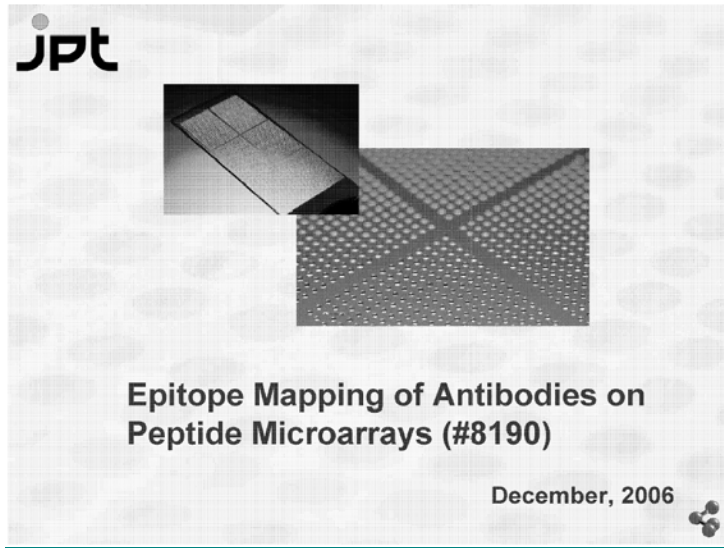
Kind regards,

Paul

Paul F. Wiegel, J.D., LL.M.
Associate Director, Intellectual Property
U.S. Patent Attorney

MorphoSys AG
Lena-Christ-Str. 48
D-82152 Planegg-Martinsried

MSYS_00575470.



MSYS_00575472.

236. In sum, the results of the Jerini Replotope Report contradict the MOR03080 epitope results shown in the earlier Jerini Report 3571 and patent Figure 7. These later results, by the same vendor and testing the same antibody, completely undermine MorphoSys's claim to an antibody that binds to at least positions 82-94 and 158-170 of CD38. See '746 Patent asserted claim 15 ("specifically binds within amino acids 44-66, **82-94**, 142-154, 148- 164, **158-170**, or 192-206 of CD38"); '746 Patent claim 19 ("specifically binds within amino acids **82-94 or 158-170** of CD38"); '746 Patent claim 20 ("specifically binds within amino acids **82-94 or 158-170** of CD38"); '061 Patent claim 3 ("binds an epitope of CD38 that contains one or more amino acid residues within **82-94 and 158-170**"); and '061 Patent claims 5 through 15 (multiple dependent on claim 3). The Jerini Replotope Results also undermine all other Figure 7 results as well, and all epitope claims that depend on Figure 7.

237. In spite of this, only the results of Jerini Report #3571 were ever communicated to the Patent Office.

Further Concealed Evidence of the Unreliability of the Figure 7 Epitopes

238. Well before the Jerini Replitope Report arrived in December 2006, MorphoSys already had ample reason to know that its Figure 7 epitope results were unreliable.

239. *Shortcomings of Jerini PepSpot Analysis and Discontinuous Epitopes:*
MorphoSys and Dr. Tesar knew that peptide array techniques (such as the PepSpot assay of Jerini Report 3571, underlying Figure 7) were particularly unreliable when faced with discontinuous epitopes—which Figure 7 plainly states that three of the four disclosed antibodies possess. (Jerini Report 3571 states that “[t]he epitopes for MOR03080 and MOR03100 can clearly be considered as discontinuous,” while MOR03077 “can be described as a multisegmented discontinuous epitope.” Ex. 1106 at 5.)

240. In July 2003, Dr. Tesar expressed doubts that a peptide array approach would generate usable data for the four MorphoSys anti-CD38 antibodies at all (“we have to expect that none of the antibodies will react with the overlapping peptides”), because the antibodies had conformational epitopes:

On a whole, we would gladly characterize 4 antibodies - but we have to expect that none of the antibodies will react with the overlapping peptides because there is a

conformational epitope (according to Jerini only 50% chance of capturing it with this “linear” technique...). It is my opinion that we should actually connect a western blot assay in advance so that we

Ex. 1051; see also Tesar Dep. Tr. at 163:7-13 (discussing Jerini as “overlapping peptides”).

241. Dr. Tesar also stated in an August 18, 2011 email to Dr. Stefan Steidl, then Director of Pharmacology at MorphoSys, that “[d]iscontinuing epitopes are certainly much more difficult to determine than linear ones.” Ex. 1173.

242. Yet when shown his 2003 statement at deposition, Dr. Tesar testified “My God. How did I come to that judgment? I don’t get the rationale behind this sentence anymore. I’m missing details, so I don’t know how I came up to this conclusion.” Tesar Dep. Tr. at 165:19-166:7.

243. At deposition, Dr. Steidl agreed that for “some” antibodies, “one of the drawbacks of this type of experiment is that it’s less reliable with respect to discontinuous epitopes than it is for linear epitopes.” Steidl Dep. Tr. at 174:24-175:14.

244. *Other Approaches to Identify Epitopes:* Apart from the Jerini peptide array mapping studies, MorphoSys also undertook a variety of other experimental approaches to identify the epitopes of the four antibodies disclosed in the Patents-in-Suit—none of which gave results consistent with Figure 7, and none of which were reported to the Patent Office.

245. *Fc ELISA Mapping:* In September 2002, MorphoSys conducted ELISA assays with Fc-fusion proteins bearing various regions of CD38 protein. At deposition, Dr. Tesar testified that “ELISA is one way of looking at epitopes. There are many others out [sic], but it’s a good start, as I said, to look at ELISA.” Tesar Dep. Tr. at 93:6-16.

246. Using the ELISA technique, MorphoSys discovered and reported in its presentations that every one of its anti-human CD38 antibody Fabs—including the four ultimately disclosed in the Patents-in-Suit—recognized “exclusively epitope aa 273-300” in the prior art C-terminal region of CD38. Ex. 1050 at 12.

247. On July 15, 2003, Dr. Tesar stated that, with the help of different EST-constructs (covering regions 45-213; 45-273 and 45-300 of CD38), he had “already establish[ed]” that MorphoSys’s four anti-CD38 antibodies react exclusively with the full-length construct 45-300. Ex. 1051. Dr. Tesar confirmed this was a strong indication that, like the prior art anti-CD38

antibodies, the epitope of MorphoSys's four anti-CD38 antibodies lie only in the C-terminal range:

If necessary, we can limit ourselves to the amino acids 200-300 because all of the previously mapped out epitopes of published anti-CD38 antibodies fall in this range. With the help of different EST-constructs (aa 45-213; 45-273 and aa 45-300) we were able to already establish that our antibodies react exclusively with the construct aa 45-300, - this is a strong indication (but unfortunately not certain!) that the epitope of our own CD38 antibody also lie only in this C-terminal range. Maybe we will still get a clue about the epitope from our collaboration with Prof. Malavasi (he is currently conducting competition studies with the already mapped antibodies and our 4 candidates) ... otherwise, I would recommend getting started with the complete length (aa45-300).

248. At deposition, Dr. Tesar confirmed this conclusion in his 2003 email, stating that the antibodies "were all binding in the C terminal range" and that "[t]his conclusion is correct." Tesar Dep. Tr. at 168:14-169:2.

249. These Fc ELISA results directly conflict with Jerini Report 3571 and Figure 7 of the Patents-in-Suit, and were not reported to the Patent Office during prosecution of the '746 Patent.

250. *Dr. Malavasi's Competitive Binding:* In or around September 2003, MorphoSys employees, including Drs. Tesar and Steidl, enlisted Dr. Fabio Malavasi of the University of Torino to perform competition assays with the four antibodies disclosed in the Patents-in-Suit. See Ex. 1052. In these studies, multiple antibodies compete to bind a given antigen; when antibodies compete with one another for binding, this can mean that they share the same epitope. See Urban Dep. Tr. at 282:9-18. Dr. Tesar testified that Dr. Malavasi was "an expert" in the CD38 field. Tesar Dep. Tr. at 72:1-17.

251. These experiments revealed that all four MorphoSys antibodies competed with one another; that MOR03080 and prior-art chOKT10 competed with one another 70%; and that MOR03079 competed 100% with several known prior art antibodies, including IB4, IB6, HB7, AT13/5, and AT2. See Ex. 1052. At deposition, Dr. Tesar testified that the 70% competition between MOR03080 and OKT10 might merit including another epitope call for MOR03080: "So

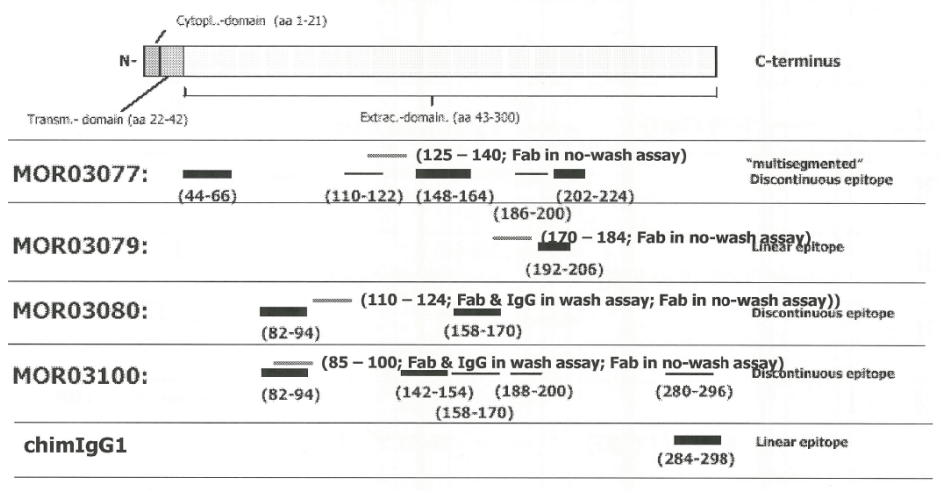
it says, ‘70 percent.’ We have to go really back in the reports to see whether it makes sense or not to – to add another bar.” Tesar Dep. Tr. at 222:11-14. Not least in terms of competition between MOR03080 and OKT10, these results directly conflict with Jerini Report 3571 and Figure 7 of the Patents-in-Suit, and were never reported to the Patent Office.

252. *NMI “MapART” Peptide Array Mapping Results:* In January 2004, MorphoSys engaged the Natural and Medical Sciences Institute at the University of Tuebingen (“NMI”) to perform epitope mapping tests to determine the epitopes of the four disclosed antibodies in the Patents-in-Suit (MOR03077, MOR03079, MOR03080, and MOR03100) using NMI’s peptide array technique, called MapART. These NMI peptide array results were reported in a MorphoSys figure titled “MapB (Jerini/NMI)” which overlaid the Jerini Report 3571 peptide array results reported in the patents at Figure 7 with the NMI peptide array results. Ex. 1056.

253. The results were contradictory. For example, NMI reported MOR03079 binding to aa 170-184, which directly contradicted its predicted epitope of 192-206 in Jerini Report 3571 and Figure 7; and NMI also reported MOR03080 binding to aa 110-124, as opposed to its Jerini 3571 Report / Figure 7 epitope of positions 82-94 and 158-170, as shown in the MorphoSys figure below:

morphosys

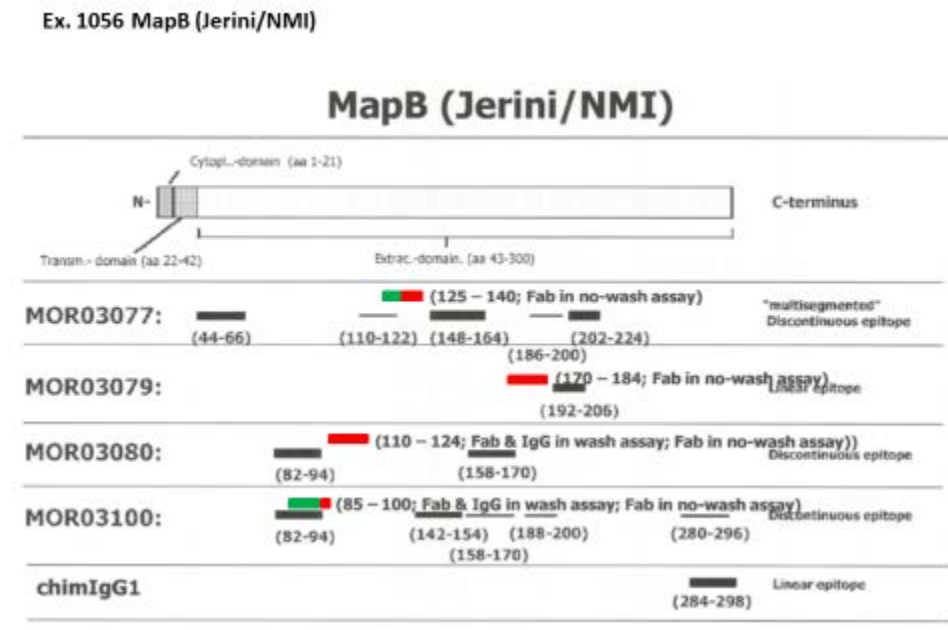
MapB (Jerini/NMI)



[Ex. 1056.](#)

254. The same MorphoSys figure is reproduced below with the contradictory NMI

MapB epitope results highlighted in color (green for overlapping, red for contradictory):



[Ex. 1056 \(color highlights added to show NMI data\).](#)

255. These NMI MapART results directly conflict with Jerini Report 3571 and Figure 7 of the Patents-in-Suit, as confirmed by Dr. Ralf Ostendorp, Head of Protein Sciences at MorphoSys, at deposition: “So as I said, the two lines marked with peptide mapping Jerini and peptide mapping NMI do not represent any overlaps of the marked regions.” Ostendorp Dep. Tr. at 317:1-13 (discussing MOR03077). MorphoSys also withheld these results from the Patent Office.

256. *NMI EST Epitope Mapping Results:* In June 2005, MorphoSys engaged NMI to employ another approach for epitope mapping of the four disclosed antibodies in the Patents-in-Suit, namely assaying their binding to expressed sequence tags (“ESTs”) of various portions of the CD38 amino acid sequence. On June 22, 2005, NMI generated a report of this EST-based epitope mapping experiment. See Ex. 1055. NMI reported “strong and significant interactions” for eight of 13 antibodies tested. Based on its interaction with two particular ESTs, the “minimal epitope region” for MOR03080 was reported to be amino acids 164-300 of CD38; no interaction with ESTs covering the 82-94 region was found. Dr. Ostendorp confirmed this finding at deposition, stating that “the table and the report states that the deduced minimal region for MOR03080 would be amino acids **164-300.**” Ostendorp Dep. Tr. at 288:23-289:17.

257. The NMI EST report explicitly compares its results to Jerini Report 3571 (the basis for Figure 7), stating that “[t]he results of epitope mapping on peptide level by Jerini AG and EST mapping approach by NMI are rather contradictory.”

5.6. Comparison with data from commercial contractor

Tables S2 (Supplementary data) is the attempt to summarise all of the NMI data for antigen B (EST mappings and peptide mappings) and to compare them with the data that were generated by Jerini AG, Berlin. However, this table has to be taken with caution since interpretation of data is not always clear without ambiguity.

Five antibodies (IgG molecules) had been analysed with epitope mappings by Jerini AG: MOR03077, MOR03079, MOR03080, MOR03100, and chimOKT10. The results of epitope mapping on peptide level by Jerini AG and EST mapping approach by NMI are rather contradictory.

Ex. 1055 at 30.

258. A supplementary table in the NMI report explicitly compares the results of the Jerini 3571 Report peptide mapping (patent Figure 7) with NMI EST mapping and NMI MapART peptide mapping. The predicted epitope results for antibody MOR03080 differ between all three approaches.

No.	Name	NMI EST mapping Wash and no-wash assays	NMI EST mapping Capture assays	NMI MapART MapB Peptide mapping	Jerini AG Peptide mapping
ab 1	MOR03077	no significant signal	no significant signal	no significant signal	not tested
ab 2	MOR03079	no significant signal	no significant signal	no significant signal	not tested
ab 3	MOR03080	139-300, 164-300	no significant signal	108-122 (1 peptide)	not tested
ab 4	MOR03100	139-300, 164-300, 232-282, (247-300)	139-300, 164-300, 232-282, (247-300)	84-98 (1 peptide)	not tested
ab 5	MOR03077	no significant signal	no significant signal	116-138, 176-198, 260-290 (3-5 peptides consensus each)	multisegmented discont: 44-66, 148-164, 202-224
ab 6	MOR03079	no significant signal	high background with all ESTs	high background with all peptides	linear: 194-204 (3 peptides consensus)
ab 7	MOR03080	139-300, 164-300	no significant signal	108-122 (1 peptide)	discont: 82-94, 158-170 (1 peptide each)
ab 8	MOR03100	139-300, 164-300, 232-282, (247-300)	139-300, 164-300, 232-282	several disperse signals	discont: 82-94, 142-154, 280-292 (pep each) (weak: 158-170, 176-186, 186-200 pep each)
ab 9	chimigG1	139-300, 164-300, (247-300)	no significant signal	several disperse signals	linear: 284-296 (2 peptides consensus)
ab 10	OKT10	no significant signal	no significant signal	not tested	not tested
ab 11	IB4	139-300, 164-300	139-300, 164-300	not tested	not tested
ab 12	HB7	139-300, 164-300	139-300, 164-300	not tested	not tested
ab 13	T16	139-300, 164-300	139-300, 164-300	not tested	not tested

Table S2: Comparison of results from NMI EST mapping and peptide mapping with results from Jerini AG.

Numbers indicate amino acid positions. Weak and/or uncertain interactions are printed in parentheses. Note that ab10, ab11, ab12, and ab13 were not tested in peptide mappings so far, since they were provided recently. **Important note:** Not all of the peptide interactions that were detected by Jerini AG are shown in this table, only the strongest interactions (selection by NMI) were taken.

Ex. 1055 at 34 (highlighting added to show MOR03080 results).

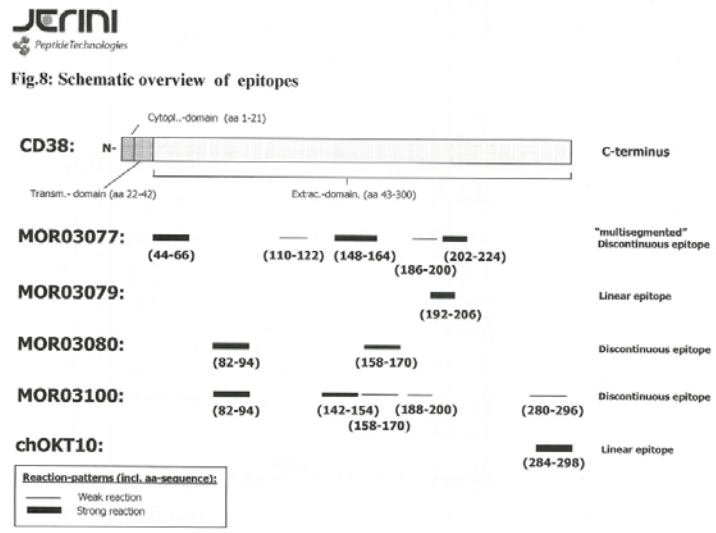
259. MorphoSys also withheld these results from the Patent Office.

260. In sum, even before the Jerini Replitope Report revealed contradictory epitope mapping data for MOR03080, MorphoSys already possessed ample epitope mapping data that directly conflicted with Jerini Report 3571 and Figure 7 of the Patents-in-Suit—neither this data, nor the Jerini Replitope Report, was ever submitted to the Patent Office, and no attempt was made to update Figure 7 to reflect these discrepancies. This despite the fact that Figure 7 was the sole support for the epitope binding claims in the asserted MorphoSys patents.

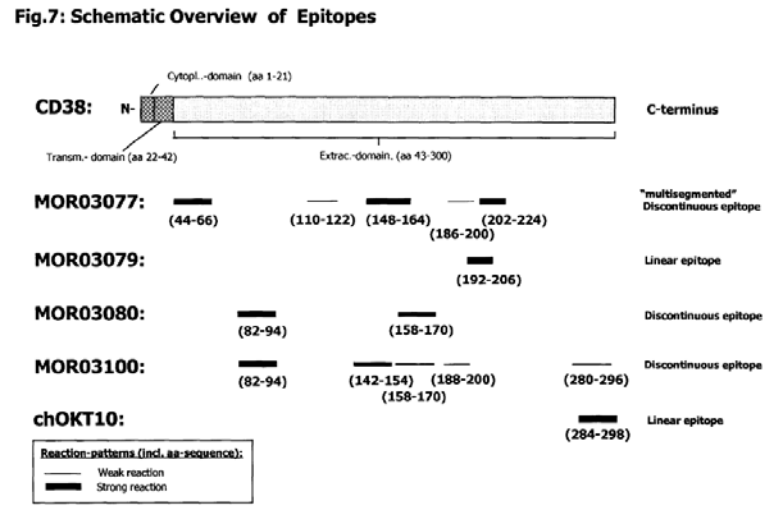
Materiality of Contradictory Epitope Data

261. Dr. Tesar testified at deposition that the reason he was interested in knowing the epitopes for MorphoSys anti-CD38 antibodies was for patent applications. See Tesar Dep. Tr. at 147:16-148:5.

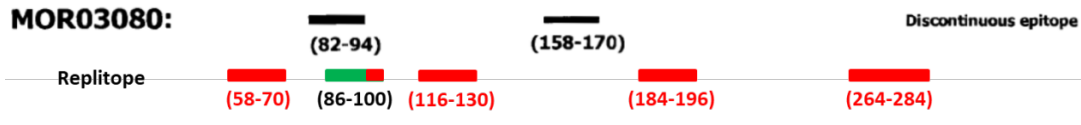
262. Figure 7 is an exact duplicate of a diagram in the Jerini 3571 Report. Compare the figure as it appears in Jerini Report 3571 (Ex. 1106 Fig. 8 at 16):



with Figure 7 of the Patents-in-Suit:



263. In submitting this figure to the Patent Office and during the many years of active prosecution that ensued, no modifications whatsoever were made to Figure 7 to account for the later, contradictory Jerini Replitope Report—which reported MOR03080 binding to a completely different epitope, shown in color below:



264. Similarly, no modifications were made to Figure 7 to account for any of the other contradictory results in MorphoSys’s possession, including NMI MapART peptide array results, NMI EST results, Fc fusion ELISA results, or Prof. Malavasi’s competitive binding experiments.

265. During prosecution of the ’746 Patent, MorphoSys relied exclusively on Figure 7 and its results—taken entirely from the initial Jerini 3571 Report, and never revised in light of the later, contradictory Jerini Replitope results—as the sole written description support for its claimed epitope ranges. This repeated reliance and assertion of Fig. 7 as exemplary of the claimed epitopes constitutes not merely a withholding of material information but material misrepresentation, without which the examiner would not have allowed the claims of the ’746 Patent.

266. For example, on October 18, 2011—nearly five years after receiving the contradictory Jerini Replitope Report—MorphoSys submitted new ’746 claims 142-148, directed to, *e.g.*, “[a]n isolated antibody or antibody fragment thereof containing an antigen-binding region... which specifically binds within amino acids 82-94 or 158-170 of CD38” (i.e., the original, unrevised epitope for MOR03080, directly contradicted by the Jerini Replitope Report). In its accompanying applicant remarks, MorphoSys directed the Examiner as follows: “Support for these claims can be found, for example, at Figure 7 and ¶¶ 0136-0138 of the published specification.” ’746 Patent file history, Oct. 18, 2011 Response to Non-Final Rejection at 8. The paragraphs of the published specification (¶¶ 0136-0138) to which MorphoSys directed the Examiner repeat only those same Figure 7 results. Also in October 2011, Mr. Wiegel attended a telephonic interview during which the Examiner and MorphoSys’s representatives discussed

epitopes for, e.g., then-pending claim 101 (directed to epitopes comprising 44-66, **82-94**, 142-154, 148-164, **158-170**, or 192-206 of CD38) and compared these with prior art epitopes. See '746 Patent file history, Oct. 14, 2011 Applicant Initiated Interview Summary at 2.

267. During prosecution of the '061 Patent, MorphoSys continued to tie claims explicitly to the epitopes identified in Figure 7, particularly MOR03080, and to misrepresent Figure 7 as exemplifying the claims. For example, Mr. Wiegel signed and submitted an Amendment on June 17, 2015, again presenting claims based entirely and exclusively on the purported MOR03080 epitope shown in Figure 7 (see, e.g., then-pending claim 30, directed to binding “an epitope of CD38 that contains one or more amino acid residues within **82-94** and **158-170**” of CD38). See '061 Patent file history, June 17, 2015 Response to Final Rejection at 2. In this Amendment, Mr. Wiegel stated that “the Examiner acknowledged that the specification provides support for the epitopes recited in claims 28-31.” *Id.* at 5.

268. Likewise during prosecution of the '590 Patent, MorphoSys again sought claims directed to the MOR03080 epitope regions 82-94 and 158-170. First, Mr. Wiegel signed and submitted a Dec. 4, 2015 preliminary amendment, in which MorphoSys sought claim 85 (including residues **82-94** and **158-170** of CD38), claim 109 (directed to an antibody “that binds to a CD38 peptide consisting of amino acid residues **82-94** of CD38”), and claim 110 (directed to an antibody that “binds to a CD38 peptide consisting of amino acid residues **158-170** of CD38), all of which are based on the Figure 7 epitope for MOR03080. See '590 Patent file history, Dec. 4, 2015 Preliminary Amendment. Next, in a Feb. 4, 2016 amendment again signed and submitted by Mr. Wiegel, MorphoSys sought claim 115 (including residues **82-94** and **158-170** of CD38), claim 140 (directed to an antibody “that binds to a CD38 peptide of amino acid residues **82-94** of CD38”), and claim 141 (directed to an antibody that “binds to a CD38 peptide

of amino acid residues **158-170** of CD38). See '590 Patent file history, Feb. 4, 2016 Preliminary Amendment. MorphoSys and Mr. Wiegel again pointed the Examiner to “Figure 7 and paragraph [0146]” of the specification as support for its claims to antibodies binding to “CQSVWDAFKGAFI” and “TWCGEFNTSKINY” (positions **82-94** and **158-170** of CD38, which correspond to the epitope shown in Figure 7 for MOR03080). See '590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 15. Alleging that Figure 7 supported the claims despite knowledge of contradictory results that undermine the accuracy of the entire figure amounts to a material misrepresentation.

269. Thus, although the '590 Patent as issued does not include claims drawn specifically to the MOR03080 epitope ranges 82-94 and 158-170, such claims were twice sought during prosecution—and for these, MorphoSys directed the examiner to the same Figure 7 data for support. See '590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 15.

270. Moreover, the results MorphoSys withheld from the Patent Office not only directly contradict the MOR03080 epitope in Figure 7, but also demonstrate the unreliability of Figure 7 generally, and thus are material to the '590 Patent's issued claims as well. To prepare Figure 7, Jerini tested all four antibodies (MOR03077, MOR03079, MOR03080, and MOR03100) in the same experiment and under the same conditions, with their data collected and interpreted in the same way. (MOR03077 initially failed to provide usable signal, and had to be re-assessed using direct labeling of secondary antibody.) The Jerini Replitope Report laid bare the shortcomings of this initial Figure 7 approach: Jerini later re-tested MOR03080 and reported wholly contradictory epitope results. This later Jerini Replitope study was performed with “good” signal to noise ratio (>100:1) and no secondary antibody false positives, on an array platform Jerini still offers today. Unlike the Figure 7 study, the later Jerini Replitope study was

done in triplicate. It was declared by Jerini to be “evaluable” (see Steidl Dep. Tr. at 251:17-252; Ex. 1173), by a “state of the art” company (see Tesar Dep. Tr. at 166:17-167:14 (“Jerini is state of the art to map epitopes”)) and its results—both for MOR03080 and for MOR03087, MorphoSys’s ultimate clinical lead candidate—were used without reservation or caveat in company presentations circulated to senior management, shared with third-party collaborator Celgene, and included in other third-party presentations as accurate and authoritative.

271. Of the four antibodies disclosed in the Patents-in-Suit, only MOR03080 was later shown by Jerini to possess a different epitope—but MOR03080 was the only one of those four antibodies that Jerini actually tested again. By exposing shortcomings in the original data for the only antibody that was re-tested, the Jerini Replitope Report also calls into question Figure 7 epitope results for antibodies MOR03077, MOR03079, and MOR03100.

272. Because the withheld data undermines Figure 7 altogether, and the claims of the ’590 Patent draw their (alleged and misrepresented) support from Figure 7, the ’590 Patent is unenforceable for inequitable conduct committed during prosecution of the ’590 Patent and related applications. Furthermore, this inequitable conduct persisted and was not cured in any of the Patents-in-Suit. There are three requirements that a patentee must meet to cure inequitable conduct in a patent. The first requirement to be met by an applicant, aware of misrepresentation in the prosecution of his application and desiring to overcome it, is that he expressly advise the Patent Office of its existence, stating specifically wherein it resides. The second requirement is that, if the misrepresentation is of one or more facts, the Patent Office be advised what the actual facts are, the applicant making it clear that further examination in light thereof may be required if any Patent Office action has been based on the misrepresentation. Finally, on the basis of the

new and factually accurate record, the applicant must establish patentability of the claimed subject matter. As detailed below, MorphoSys did none of these.

273. MorphoSys did nothing to cure the deficiencies of Figure 7 during prosecution of any Patent-in-Suit, including the '590 Patent which issued in fall 2017. Rather, it continued its pattern of withholding information and materially misrepresenting Figure 7 as an accurate representation of exemplified antibody epitopes. As discussed above, Jerini's initial inability to reproduce MOR03080's epitope results, and later reporting of reliable and entirely contradictory data for this antibody, thoroughly undermines the Figure 7 data for all antibodies—not just MOR03080. Although MorphoSys knew that the Jerini Replitope Report contradicted Figure 7 and undercut its validity, it nonetheless failed to advise the Patent Office of the Jerini Replitope Report, its possession of other data contradicting its prior representation, or the unreliable epitope maps in Figure 7. MorphoSys never informed the Patent Office of any issue raised by the Jerini Replitope Report, let alone made the Patent Office aware that further examination might be required in light of it. MorphoSys thus did not establish patentability of the claims on a factually accurate record. MorphoSys withheld and misrepresented material information not just during prosecution of the '746 and '061 Patents but in the '590 Patent as well; its inequitable conduct was not remedied and infected all Patents-in-Suit.

274. Even in this litigation, MorphoSys's own legal arguments emphasize the materiality of Figure 7. In its claim construction briefing, MorphoSys argued that the term "specifically binds within" of the '746 Patent should be broadly construed and not limited to binding *only* within the amino acid regions identified in the claims. Again, the data MorphoSys withheld from the Patent Office not only directly contradicts the Figure 7 epitope for MOR03080, but also demonstrates the utter unreliability of Figure 7 generally and thus calls into

question the epitope results for antibodies MOR03077, MOR03079, and MOR03100 as well. Yet MorphoSys relied on that very Figure 7 epitope mapping data to argue that because antibodies such as MOR03077 and MOR03100 bind both within the claimed region of 44-206 and also outside that region (i.e., at 207-224 for MOR03077 and 280-298 for MOR03100), MorphoSys was entitled to a broad construction of this claim term—without ever mentioning that the data for Figure 7 was unreliable or that it had in its possession data flatly contradicting the purported epitope of MOR03080. See D.I. 82, Dec. 27, 2016 Opening Brief ISO MorphoSys Claim Constructions of '746 Patent, at 14.

275. The Figure 7 results are the sole written description support for the MorphoSys epitope claims. Without it, there is no basis for the Patent Office to have issued these claims, particularly claims based directly on the alleged binding site of MOR03080. In sum, the Patent Office would not have allowed claims directed to the epitopes shown in Figure 7 had MorphoSys actually made the Examiner aware of the Jerini Replitope Report or other contradictory results and admitted that Figure 7 did not actually exemplify the epitope of MOR03080.

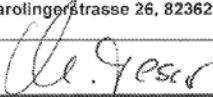
276. And as described below, MorphoSys realized this, and deliberately withheld contradictory information with intent to deceive the Patent Office. In addition, Morphosys repeatedly, deliberately and with intent to deceive misrepresented the contents of Figure 7, conveying that it accurately portrayed the epitopes of antibodies that Morphosys had made despite knowing that, at the very least in the case of MOR3080, it did not.

Individuals with a Duty to Disclose Material Information to the Patent Office

277. Dr. Michael Tesar was the Associate Director of Research & Development at MorphoSys from 1998 to 2012 and was project lead of the anti-CD38 antibody project. Dr. Tesar is a named inventor of the '746, '061, and '590 Patents. Dr. Tesar signed an oath in

connection with his inventorship, acknowledging his “duty to disclose to the Patent Office all information known ... to be material to patentability as defined in 37 CFR 1.56.”

I (we) hereby state that I (we) have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above. I (we) acknowledge the duty to disclose to the Patent Office all information known by me to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information known by me which became available between the filing date of the prior application and the national or Patent Cooperation Treaty (PCT) or international filing date of the continuation-in-part application.

First Inventor:	<input type="checkbox"/> A petition has been filed for this unsigned inventor		
Name:	Michael TESAR		
Citizenship:	Germany		
Mailing Address:	Karolingerstrasse 26, 82362 Weilheim, Germany		
Inventor's Signature:		Date	July 30, 2009

'746 Patent file history, oath.

278. Dr. Tesar made clear that he *knew* he had a responsibility to report any potentially-reliable data to the Patent Office by testifying under oath that he did not communicate Jerini Report 8190 to the Patent Office because it had a “technical issue” and it was a “decision for the patent attorneys to – to decide whether these should be sent or not.” Tesar Dep. Tr. at 267:23-269:23.

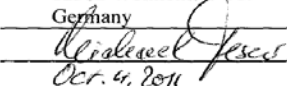
279. Dr. Tesar also testified at deposition that his “duty as a scientist was to perform these assays, and these assays and the results thereof were basically the basis for this patent.” Tesar Dep. Tr. at 226:12-15. Dr. Tesar also testified that he may have drafted the patent itself, and in any event it was his “duty as a scientist to look through the results [to confirm] if they are accurate,” and also that he “work[ed] closely together with patent attorneys” on the project. Tesar Dep. Tr. at 228:10-230:4. As an inventor and an individual associated with the filing and prosecution of the patent applications, Dr. Tesar unquestionably had a duty to disclose all information material to patentability.

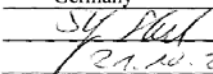
280. Dr. Stefan Steidl is now Head of Preclinical Development at MorphoSys and has worked at MorphoSys since 2001. On information and belief, Dr. Steidl was also involved in the prosecution of the '746, '061 and/or '590 Patents. Dr. Steidl contributed experimental work to the Patents-in-Suit and reviewed and edited the applications. See Steidl Dep. Tr. at 103:13-20 ("So I contributed some of the experiments that led to that ['746] patent. And – and I do recall also proofreading or reading the document in the – in the drafting state.") MorphoSys's privilege log has identified communications and documents wherein Dr. Steidl was involved in emails "requesting and providing legal advice from counsel regarding patent prosecution," "providing information for the purpose of rendering legal advice regarding patent office declarations," "regarding drafting response to office action," and reports "reflecting a request for legal advice from counsel regarding patent prosecution." See, e.g., privilege log entries for: Jan. 22, 2004 report authored by Steidl reflecting a request for legal advice from counsel regarding patent prosecution; Feb. 1, 2004 Email from Urban to Steidl requesting and providing legal advice from counsel regarding patent prosecution; Feb. 19, 2004 Email from Tesar to Steidl requesting information for the purpose of obtaining legal advice regarding patent prosecution; July 3, 2012 Email from Wiegel to Steidl regarding drafting response to office action; Sept. 29, 2014 Email from Steidl to Wiegel providing information for the purpose of rendering legal advice regarding patent office action declarations.

281. Dr. Steidl also was a named inventor on the '061 Patent, and signed an oath and declaration on Nov. 22, 2011; he was removed as an inventor on Oct. 5, 2015 and replaced with Ute Jaeger in light of claim amendments. See '061 Patent file history, Nov. 22, 2011 Oath, and Oct. 5, 2015 Request Under Rule 48 to Correct Inventorship. In the executed Oath and Declaration, both Dr. Steidl and Dr. Tesar acknowledged "the duty to disclose to the U.S. Patent

and Trademark Office all information known ... to be material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56”:

THAT I acknowledge the duty to disclose to the U.S. Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

Name of first inventor	Michael TESAR
Residence	Weilheim i. Ob., Germany
Citizenship Country	Germany
Post Office Address	Karolingerstrasse 26 82362 Weilheim i. Ob. Germany
Inventor's signature	
Date	Oct. 4, 2011

Name of second inventor	Stefan STEIDL
Residence	München, Germany
Citizenship Country	Germany
Post Office Address	Planeggerstr. 37 81241 München Germany
Inventor's signature	
Date	21.10.2011

282. As such, as an individual associated with the filing and prosecution of the patent applications, Dr. Steidl unquestionably also had a duty to disclose information material to patentability.

283. Dr. Marlies Sproll was Chief Scientific Officer at MorphoSys during the relevant time period and has worked at MorphoSys since 2000. See Sproll Dep. Tr. at 15:24-16:1; 16:21-17:10. On information and belief, Dr. Sproll was also involved in the prosecution of the '746, '061 and/or '590 Patents. MorphoSys's privilege log has identified communications and documents wherein Dr. Sproll was involved in emails concerning “patent filings,” “patent application materials,” “intellectual property protection,” “intellectual property evaluation.” See, e.g., privilege log entries for: Dec. 6, 2010 Email from Sproll to Hutter containing legal advice from counsel regarding patent application filings; Sept. 1, 2011 Email from Sproll to Hutter requesting advice regarding patent prosecution.

284. Dr. Sproll also testified during her deposition that she was in charge of supervising the Intellectual Property Department at MorphoSys when she was Chief Scientific Officer. See Sproll Dep. Tr. at 28:9-20 (“Q: What are your responsibilities with respect to intellectual property? . . . The witness: -- yeah. It was kind of the line manager function for the IP department.”); id. at 28:22-29:11 (“Q. Are you involved in overseeing the filing of the patents by MorphoSys? . . . THE WITNESS: Supervising the department.”) As such, as an individual associated with the filing and prosecution of the patent applications, Dr. Sproll also had a duty to disclose information material to patentability.

285. On information and belief, Paul Wiegel was a patent lawyer at MorphoSys from August 2008 through November 2016. Mr. Wiegel actively prosecuted the Patents-in-Suit. For example, he attended a telephonic interview during which the Examiner and MorphoSys’s representatives discussed epitopes for, e.g., then-pending claim 101 (directed to epitopes comprising 44-66, **82-94**, 142-154, 148-164, **158-170**, or 192-206 of CD38) and compared these with prior art epitopes. See ’746 Patent file history, Oct. 14, 2011 Applicant-Initiated Interview Summary at 2. During prosecution of the ’061 Patent, Mr. Wiegel signed and submitted an Amendment on June 17, 2015, again presenting claims based entirely and exclusively on the purported MOR03080 epitope shown in Figure 7 (see, e.g., then-pending claim 30, directed to binding “an epitope of CD38 that contains one or more amino acid residues within **82-94** and **158-170**” of CD38). See ’061 Patent file history, June 17, 2015 Response after Final Rejection at 2. Likewise during prosecution of the ’590 Patent, Mr. Wiegel signed and submitted a Dec. 4, 2015 preliminary amendment, in which MorphoSys sought claim 85 (including residues **82-94** and **158-170** of CD38), claim 109 (directed to an antibody “that binds to a CD38 peptide consisting of amino acid residues **82-94** of CD38”), and claim 110 (directed to an antibody that

“binds to a CD38 peptide consisting of amino acid residues **158-170** of CD38), all of which are based on the Figure 7 epitope for MOR03080. See ’590 Patent file history, Dec. 4, 2015 Preliminary Amendment. Next, in a February 4, 2016 amendment again signed and submitted by Mr. Wiegel, MorphoSys sought claim 115 (including residues **82-94** and **158-170** of CD38), claim 140 (directed to an antibody “that binds to a CD38 peptide of amino acid residues **82-94** of CD38”), and claim 141 (directed to an antibody that “binds to a CD38 peptide of amino acid residues **158-170** of CD38). See ’590 Patent file history, Feb. 4, 2016 Preliminary Amendment. MorphoSys and Mr. Wiegel again pointed the Examiner to “Figure 7 and paragraph [0146]” of the specification as support for its claims to antibodies binding to “CQSVWDAFKGAFI” and “TWCGEFNTSKINY” (positions **82-94** and **158-170** of CD38, which correspond to the epitope shown in Figure 7 for MOR03080). See ’590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 15. Mr. Wiegel’s mailing address is listed on the ’746 Patent’s November 2, 2015 Certificate of Correction, and the ’061 Patent’s March 31, 2016 Certificate of Correction; Mr. Wiegel signed and submitted the ’590 Patent’s December 4, 2015 Statement to Support Filing and Submission in Accordance with 37 C.F.R. §§ 1.821-1.825, as well as Information Disclosure Statements for the ’590 Patent (Dec. 4, 2015).

286. Mr. Wiegel also appears frequently on MorphoSys’s privilege log in this case in connection with patent prosecution activities. For example, MorphoSys’s privilege log has identified communications and documents wherein Mr. Wiegel was involved in emails “regarding review of draft patent prosecution documents” and “providing legal advice from counsel regarding patent prosecution claims,” as well as patent prosecution documents “regarding draft patent claims” and “regarding office action response.” See, e.g., privilege log entries for: Apr. 14, 2009 Email from Wiegel to Thellman, Steidl, and Leclair providing legal

advice from counsel regarding patent prosecution claims; Aug. 11, 2010 Email from Wiegel to Gorgey reflecting legal advice from counsel regarding review of draft patent prosecution documents; Jan. 3, 2011 document authored by Wiegel regarding office action response; Apr. 16, 2013 patent prosecution document authored by Wiegel regarding patent prosecution; Apr. 30, 2014 patent prosecution document authored by Wiegel regarding draft patent claims.

Failure to Disclose the Contradictory Results by Individuals Having a Duty to Do So

287. Dr. Tesar was aware of the contradictory ELISA Fc-fusion epitope mapping results no later than Dec. 17, 2002, when the data was presented in an R&D meeting. See Ex. 1050 at slide 12. On July 15, 2003, Dr. Tesar emailed colleagues a summary of this data, explaining that “we were able to already establish that our antibodies react exclusively with the construct aa 45-400,” yielding a “strong indication” that the epitope lie “only in this C-terminal range.” Ex. 1051. The application that ultimately issued as the ’746 Patent had not yet been filed at this time.

288. Drs. Tesar and Steidl were aware of the contradictory Malavasi competitive binding experiment epitope mapping results no later than Sept. 17, 2003, when the data was presented in a teleconference. See Ex. 1052. On November 4, 2003, the results were presented in an R&D meeting, alongside the Jerini #3571 peptide array results. See Ex. 1053 at slides 19-24. The application that ultimately issued as the ’746 Patent had not yet been filed at this time.

289. Dr. Tesar was aware of the contradictory NMI MapART peptide array mapping results no later than November 10, 2004, when Dr. Ostendorp emailed him an overlaid figure comparing NMI’s peptide array results with those from Jerini’s #3571 Report, including contradictory, non-overlapping epitope identifications for MOR03079 and MOR03080. See Ex.

1056. The non-provisional application that ultimately issued as the '746 Patent had not yet been filed at this time.

290. Dr. Tesar was aware of the contradictory NMI EST epitope mapping results dated June 22, 2005 no later than July 15, 2005, when Dr. Ostendorp emailed them as an attachment. See MSYS_01711020. Dr. Ostendorp told Tesar that while the NMI and Jerini data lined up for ICAM (another antigen tested), the results for the CD38 epitope mapping were contradictory: “[T]here will be another follow-up conference call about this, because the data situation is really complex and we are still not really combining the data sets of Jerini with the peptide and EST data from NMI (by contrast, we have a very clear picture for ICAM).” Dr. Ostendorp also wrote to Tesar “[f]eel free to stop by anytime – we need to talk about patent supplements anyway.” MSYS_01711020.

291. The NMI EST report included a statement in the report that NMI and Jerini results were “rather contradictory” and a supplementary table listing differing epitope identifications for, among others, MOR03080. Ex. 1055. The application that ultimately issued as the '746 Patent had recently been filed at this time; MorphoSys would still file new epitope-based claims relying solely on Figure 7 over seven years after this, without ever communicating the contradictory NMI EST epitope mapping results to the Patent Office.

292. Dr. Tesar was aware of the failed Jerini 8190 Report epitope mapping results no later than December 1, 2006, when Thomas Ast of Jerini emailed the report as an attachment. See Ex. 1172. Dr. Tesar emailed others at MorphoSys to discuss the results and next steps, stating that “Jerini is now going to try alternatives (glass-slides, direct labelling) in order to get it to work.” Ex. 1058.

293. Dr. Tesar was aware of the contradictory Jerini Replitope Report epitope mapping results no later than December 1, 2006, when Thomas Ast emailed them as an attachment. See Ex. 1172. This report included results performed in triplicate (unlike Jerini Report 3571), with “good” signal to noise ratio, no false positives from secondary antibodies, and included epitope results for MOR03087, as well as epitope results for MOR03080 that contradicted the earlier Jerini 3571 Report. MorphoSys was actively prosecuting the ’746 Patent application at this time; MorphoSys would file new epitope-based claims relying solely on Figure 7 nearly six years after this, without ever communicating the contradictory results of the Jerini Replitope Report to the Patent Office.

294. Dr. Steidl was aware of the contradictory Jerini Replitope Report results at the latest by 2009. In November 2009, Dr. Steidl sent an email, subject “MOR202 Offsite,” attaching a December 2008 slide presentation that reported both the MOR03080 and MOR03087 epitopes using data drawn from the Jerini Replitope Report. See Ex. 1073 at slide 20. And in August 2011, Dr. Tesar sent Dr. Steidl an email, subject “Epitope mappings....CD38,” (Ex. 1173) stating that “further mapping experiment using Replitope Peptide Microarray” was done, and this experiment “did not have the difficulties.” Dr. Tesar further informed Dr. Steidl in this email that there was only partial agreement between the Replitope result for MOR03080 and the epitope result from the first Jerini report.

295. Mr. Wiegel was aware of the Jerini Replitope Report at the latest by 2013. In February 2013, Mr. Wiegel sent an email, subject “MOR202 epitope,” (MSYS_01884788) attaching a slide presentation (MSYS_01884789) that reported both the MOR03080 and MOR03087 epitopes using data drawn from the Jerini Replitope Report. And on May 29, 2013, Mr. Wiegel emailed the Jerini Replitope Report itself as an attachment to third party collaborator

Celgene, stating “[p]lease find attached the summary of the MOR3080 epitope mapping.” MSYS_00575470.

296. No later than January 16, 2007—a short time after MorphoSys received the Jerini Replitope Report (see Steidl Dep. Tr. at 248:13-19), Dr. Tesar included the revised epitope results for MOR03080 and MOR03087 in a MorphoSys presentation, including the revised epitope for MOR03080 that differed from patent Figure 7. See Ex. 1123 at slide 29. This presentation was sent to MorphoSys senior management, including Dr. Sproll. Ex. 1123. A management board presentation dated February 8, 2007 also contains these revised epitope results (MSYS_00267821), and on information and belief, Dr. Sproll attended this management board presentation. MorphoSys relied upon these revised epitopes for MOR03080 and MOR03087 not just in presentations to upper management but also in presentations to the public and third-parties on many occasions. For example, on May 4, 2007, Dr. Tesar provided Dr. Sproll a poster presentation containing these revised epitopes in preparation for the 2007 American Society of Clinical Oncology conference. See MSYS_01184698; MSYS_01184699. Around the same time, Dr. Sproll also received a slide deck containing these revised epitopes from Dr. Bianca Ahrens, who was seeking Dr. Sproll’s comments prior to presenting it at a scientific conference. See MSYS_01423401. When the MorphoSys team, including Dr. Sproll, needed to inform a potential collaborator about its CD38 program, a slide deck containing these revised epitopes was the used. See MSYS_01401756. Against this backdrop, MorphoSys was actively prosecuting the ’746 Patent application at this time, and continued to file new epitope-based claims relying on and misrepresenting Figure 7 over a period of many years.

297. On information and belief, MorphoSys’s IP team, and in particular Mr. Wiegel, received Dr. Tesar’s 2007 PowerPoint presentation that included the Jerini Replitope Report data

for MOR03080 that directly contradicted patent Figure 7. One version of this file produced by MorphoSys (MSYS_00892680) bears the custodian “IP Network,” and another version (MSYS_01399771) was taken from a folder titled “Client Document\2016-03-11 - Files from Paul Wiegel\After invention.”

298. Dr. Tesar, Dr. Steidl, Dr. Sproll, and Mr. Wiegel were aware of and had knowledge of the contradictory epitope mapping data discussed in paragraphs 287-297 above, but did not submit these results to the Patent Office. Instead, the only epitope mapping results the Examiner evaluated were those on which Figure 7 is based—namely the single Jerini 3571 Report.

Intent to Deceive, and the Inequitable Conduct that Resulted in the Patents-in-Suit

299. Dr. Tesar, Dr. Steidl, Dr. Sproll, Mr. Wiegel, and other individuals associated with the filing or prosecution of the patent applications intentionally failed to disclose contradictory epitope mapping data to the Patent Office in connection with prosecution of those patents, with intent to deceive the Patent Office.

300. MorphoSys actively prosecuted one or more Patents-in-Suit over a twelve-year period, from early 2005 through late 2017. The PCT application that issued as the '746 Patent was filed on February 7, 2005, and prosecution continued for over seven years. During prosecution, MorphoSys submitted what would ultimately issue as epitope-based antibody claims in the '746 Patent on October 18, 2011, and was actively prosecuting and amending filed claims as late as March 13, 2012. The Notice of Allowance issued on April 30, 2012, and the '746 Patent itself issued on September 11, 2012. MorphoSys filed the application that ultimately issued as the '061 Patent on November 11, 2011, and the '061 Patent issued on December 1,

2015. MorphoSys filed the application that ultimately issued as the '590 Patent on December 4, 2015, and the '590 Patent issued on Sep. 12, 2017.

301. Shortly after prosecution started on the '746 Patent, on July 22, 2005, Dr. Sproll—who in 2005 became the Chief Scientific Officer of MorphoSys and whose duties included overseeing the IP department (see Sproll Dep. Tr. 28:9-20; 28:22-29:11)—sent an internal email concerning the CD38 project explicitly stating the company's unwillingness to perform “further work on the epitope mapping [of] CD38”, so as to “not compromise our already files [sic] patent application!!” Ex. 1124. Dr. Sproll's 2005 email evidences MorphoSys's specific intent to deceive the Patent Office—initially by making sure not to do follow up experiments that might contradict Figure 7:

Sender: Marlies Sproll </O=MORPHOSYS_GMBH/OU=MUENCHEN/CN=RECIPIENTS/CN=MARLISS>
Sent: Friday, July 22, 2005 8:50:36 AM
Recipient: Ralf Ostendorp <Ralf.Ostendorp@morphosys.com>; MOR AL's & GL's (R&D only) <MOR_DIS_DHsGLs@morphosys.com>; Robert Friesen <Robert.Friesen@morphosys.com>
Subject: RE: Antw: mapART

Hi Ralf,
Thanks for the info and the paper.
With regard to further work on the epitope mapping CD38:
Please keep in mind that we at first have to ensure with IP that we do not compromise our already files patent application!!
This needs tight interaction with IP and I recommend to take this up with Steve, who will be back mid August (not "only" Tanja)!!
Thanx, Marlies

302. But despite Dr. Sproll's careful admonition—which she was instructed by MorphoSys's trial counsel not to testify about at deposition, citing privilege (see Sproll Dep. Tr. at 247:1-250:18)—MorphoSys did in fact “perform further work on the epitope mapping” of its disclosed anti-CD38 antibodies when Jerini included MOR03080 as a control antibody in a later study. When this “control” did not match its own Figure 7 epitope, Jerini investigated further; the resulting Jerini Replotope Report revealed a totally different, contradictory epitope for MOR03080.

303. In other words, just as Dr. Sproll had feared in her July 22, 2005 email, contradictory results did in fact “compromise [MorphoSys’s] already file[d] patent application[.]” But the key individuals—having knowledge of these contradictory results and knowing their materiality to the pending patent applications—chose not to disclose them to the Patent Office, with the intent that the Examiner would never know about the unreliability of the Figure 7 data. These individuals concealed material information about Figure 7 even while repeatedly misrepresenting and emphasizing its importance to the Examiner and to this Court.

304. MorphoSys and the individuals having a duty to disclose, have engaged in a pattern of deliberate withholding of data from the Patent Office and misrepresentation of what results are actually exemplified in the patent specification. This is strong evidence of the specific intent to deceive the Patent Office.

305. At deposition, MorphoSys witnesses including Dr. Steidl and Dr. Tesar disparaged the reliability of the withheld reports, until confronted with contemporaneous documents supporting their reliability. The way MorphoSys’s witnesses testified at their recent depositions provides further evidence of the specific intent to deceive the Patent Office.

306. *MorphoSys witnesses testified that the Jerini 3571 Report was “state of the art” and disparaged later Jerini Reports, until confronted with contemporaneous documents:* At deposition, MorphoSys witnesses, including named inventor Dr. Tesar, 30(b)(6) designee Dr. Steidl, and other scientists personally involved in the CD38 project, consistently testified that Jerini peptide array epitope mapping was “state of the art” and a “gold standard”—so much so that replicates need not even be performed. *See, e.g.,* Tesar Dep. Tr. at 185:10-20 (“Did you feel that the [Jerini 3571] experiment had been well-performed? ... THE WITNESS: Well, feel? Feel? What does feeling mean? They told us to perform this mapping based on quality standards.

They certainly had established at their company, so why shouldn't we trust on these results?");
see also Ostendorp Dep. Tr. at 259:21-260:23 ("So we consider this [Jerini 3571] report as a
final report. And the final -- how should I say it? A report on a method which is widely accepted
and state of the art in the community. There's no reason to doubt the results from this
experiments. And the report gives an outlook of the opportunities to characterize an epitope with
more position if need be. So there's for me no reason to follow up on any activities but to take
these data as facts being performed and deduced from a state-of-the-art technology"); Ostendorp
Dep. Tr. at 111:22-112:18 ("Q. As the head of the protein sciences group, would you expect that
that [Jerini 3571, Figure 7] work had been confirmed to be reproducible? ... THE WITNESS: In
general, not necessarily. If there is no reason to doubt experimental results with a well-
established technology, I would not necessarily expect to reproduce each and every
experiment"); Ostendorp Dep. Tr. at 323:10-13 ("there's no reason to replicate results which are
solid and performed with the state-of-the-art methodology.")

307. MorphoSys's 30(b)(6) designee Dr. Steidl repeatedly testified on behalf of the
company that the contradictory results of the follow-up Jerini epitope mapping reports were
unreliable. See Steidl Dep. Tr. at 219:19-220:10 ("This is a depiction of this second Jerini study
we asked them to do for us. And in contrast to what's stated in the report from Jerini, somebody
interpreted apparently on the MorphoSys end and -- this slide and -- yes, that's what we see
here"); see also id. at 213:23-214:17 ("that Jerini report concluded—because they had technical
problems with the secondary antibody, that the results that they obtained were basically not
robust and therefore were non-data"); id. at 227:23-228:11 ("I would like to note that the report
underlying this depiction in the [Ex.] 1123 document is judged to be non-reliable"); id. at
227:12-19 ("the report itself say[s] these data are not reliable").

308. MorphoSys 30(b)(6) designee Dr. Steidl also disparaged later Jerini studies as “non-data”, and called the Jerini Replitope Report an unreliable “demo report.” See Steidl Dep. Tr. at 178:25-179:5 (testifying that, aside from the Jerini 3571 Report which underlies Figure 7, “no other epitope mapping with a PepSpot technology was done that gave reliable results”).

309. When shown the Jerini Replitope Report at deposition, Dr. Steidl first attempted to discredit it by inferring an internal comparison (“very similar binding patterns”) to the failed Jerini 8190 Report. See Steidl Dep. Tr. at 242:15-245:3 (“So I would think that Jerini in itself is inconsistent, because the third bullet point is saying, ‘All primary antibodies show very similar binding patterns.’ This might well be referring to the other report, but the other report in their own words was deemed to be not valid”).

310. Only when confronted with contemporaneous documents did Dr. Steidl admit that MorphoSys had in fact requested the Jerini Replitope assay. Compare Steidl Dep. Tr. at 237:3-17 (first testifying that Jerini “offered” to provide the Jerini Replitope Report as a “‘demo report,’ whatever that means”) with Steidl Dep. Tr. at 251:6-16 (confronted with document, admitting that “it wasn’t that Jerini had done this on their own; it was something that MorphoSys had agreed should be done”).

311. When confronted with Dr. Tesar’s contemporaneous email stating that the Jerini Replitope microarray experiment did not have difficulties and was declared by Jerini to be evaluable, Dr. Steidl, testifying on behalf of MorphoSys, contradicted the contemporaneous documents to argue that the Jerini Replitope Report is nonetheless unreliable. See Steidl Dep. Tr. at 251:17-252:24 (Tesar “used parentheses [sic, quotation marks]. And you could -- well, of course it’s interpretation. But my interpretation is that these data are not reliable. Why would he other—otherwise used parentheses? And he used also interestingly the wording that it has been

declared analyzable. That's—I think that's what—what is your translation say? 'Evaluable.'
'Declared to be evaluable.' For me also implies that he had some doubt whether that was the
case. So it's not—it's not his opinion. It says it was 'declared evaluable,' and he's taken this for
a qualitative graphic.") This testimony stands in contrast to numerous documents in
Morphosys's internal documents, as set forth below.

312. Dr. Steidl, again testifying on behalf of MorphoSys, even went so far as to testify
that no valid epitope data exists for the company's MOR03087 ("MOR202") clinical lead
candidate—because those results, as shown in company materials, came from the same Jerini
Replitope Report that Dr. Steidl now disparages:

Q. You understand that the epitope of daratumumab is different from the epitope
of 3087?

A. I'm aware that there are published data on the daratumumab epitope, and as
we—as MorphoSys—as I explained to you by judging the data from the PepSpot
mapping is not valid, did not come to a conclusion what the actual 3087 epitope
is. I can't answer the question, because I would be comparing published data with
non-data.

Q. So is it—is it your position that MorphoSys doesn't know what the epitope of
3087 is?

A. We have not conducted, to the best of my knowledge, any other epitope
mapping studies other than the two that we have discussed. So I do conclude we
are not currently in possession of the knowledge of to say this is the 3087 epitope.

Steidl Dep. Tr. at 264:6-265:3.

313. MorphoSys witnesses were evidently prepared not to bring up the contradictory
Jerini Replitope Report at all, and if it was brought up in deposition, to disparage it as "non-
data."

314. But the witnesses' "party line" is completely undermined by contemporaneous
documents, as well as deposition testimony secured after witnesses were presented with those
documents, which tell a very different story.

315. *Internal Reliance on Replitope Results:* In a 2011 email to Dr. Steidl, Dr. Tesar described the Jerini Replitope Report as follows: “The Microarray experiment did not have the difficulties, was declared by Jerini to be evaluable, and the result was ‘qualitatively’ drawn by me in a graph.” Ex. 1173. Despite deposition testimony to the contrary, contemporaneous documents set forth below reveal that the epitope results of the Jerini Replitope Report were extensively used and relied upon by MorphoSys at the same time that the ’746 Patent application was being prosecuted, and that MorphoSys specifically discussed the contradictory epitope data mere weeks before filing the ’061 continuation in part application.

316. *MorphoSys’s Witnesses’ Attempted Disavowal of MOR03087 Replitope Results:* As noted earlier, at deposition Dr. Steidl testified on behalf of the company that MorphoSys does not actually know the epitope of MOR03087, the same antibody that is the company’s current clinical lead candidate (now designated as “MOR202”). Dr. Steidl boxed himself into this position by repeatedly asserting that the Jerini Replitope Report was “not valid,” notwithstanding that it was also the source of MorphoSys’s epitope data for MOR03087. *See* Steidl Dep. Tr. at 264:6-265:3 (“we -- as MorphoSys -- as I explained to you by judging the data from the PepSpot mapping is not valid, did not come to a conclusion what the actual 3087 epitope is”).

317. *Contrary to Dr. Steidl’s testimony, MorphoSys has clearly relied on the results of the Jerini Replitope Report whenever it reported the epitope of MOR03087, which is its current clinical lead candidate (now designated as “MOR202”).*

318. *When confronted at deposition with his own 2008 email, Dr. Steidl admitted that he had personally provided MOR03087 epitope information based on data from the Jerini Replitope Report, without qualification, to MorphoSys’s Chief Scientific Officer. See Steidl*

Dep. Tr. at 266:6-267:18 (“it may be a comparison of the epitopes which has been in the report -- in this – this glass slide report being mentioned”).

319. And as set forth below, MorphoSys repeatedly and unequivocally relied on the MOR03080 and MOR03087 epitope data from the Jerini Replitope Report, both internally and externally.

320. *Reliance on MOR03080 Replitope Results—Communications with Celgene:* In May 2013, third party collaborator Celgene asked for “a summary of the results of the MOR3080 epitope mapping.” MSYS_00575470. Mr. Wiegel responded, stating “[p]lease find attached the summary of the MOR3080 epitope mapping,” and attached only the Jerini Replitope Report, in its entirety:

Sender: Paul Wiegel </O=MORPHOSYS_GMBH/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=PAULW>
Sent: Wednesday, May 29, 2013 11:05:45 AM
Recipient: Carla Kuhner <ckuhner@celgene.com>
Cc: Konstantin Petropoulos <Konstantin.Petropoulos@morphosys.com>; Ariel Jasie <ajasie@celgene.com>
Subject: RE: MOR3080 epitope MAP
Attachments: Antibody_Profiling_Tesar-8190_final.pdf

Dear Carla

Thanks for your patience. Please find attached the summary of the MOR3080 epitope mapping. Please let me know if you would like to discuss.

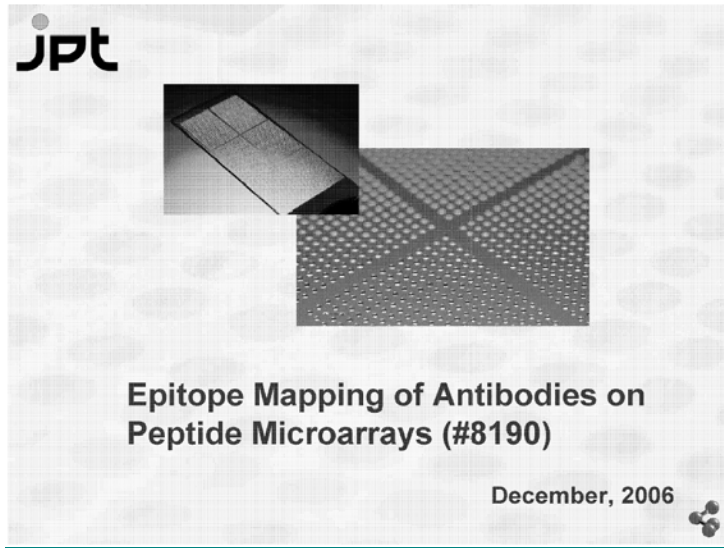
Kind regards,

Paul

Paul F. Wiegel, J.D., LL.M.
Associate Director, Intellectual Property
U.S. Patent Attorney

MorphoSys AG
Lena-Christ-Str. 48
D-82152 Planegg-Martinsried

MSYS_00575470.



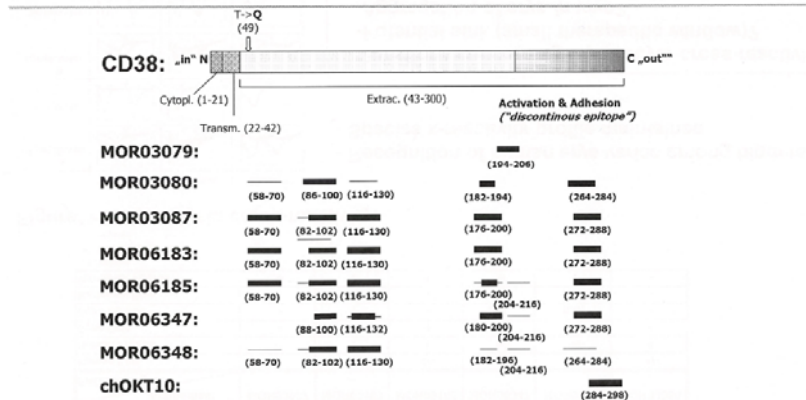
MSYS_00575472.

321. MorphoSys's explicit reliance on the Jerini Replitope Report—including providing third-party collaborator Celgene without qualification as a “summary of the MOR3080 epitope mapping”—belies Dr. Steidl's deposition testimony that the Jerini Replitope Report was considered unreliable, and clearly demonstrates that MorphoSys both internally and externally relied on the revised epitopes for MOR03080 in the Jerini Replitope Report without ever providing them to the Patent Office.

322. *Reliance on MOR03080 Replitope Results—2007 R&D Presentation:* A January 16, 2007 MorphoSys R&D presentation (Ex. 1123) included epitope mapping data derived from the Jerini Replitope Report. A slide therein prepared by Dr. Tesar (*see* Steidl 252-53; Ex. 1173) presented only the revised epitope results for MOR03080 (*see* Ex. 1123 at slide 29), omitting completely the earlier Figure 7 results:

In Vitro Characterization: Epitope Mapping

morphosys



- Discontinuous epitopes shown for MOR03080, MOR03087 & 03088 derivatives
- Similar profiles of MOR03080, MOR03087, MOR03087- & 03088-derivatives
- Marmoset cross-reactivity could reside within aa116-130?

Page 29

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323. Both 30(b)(6) designee Dr. Steidl and Chief Scientific Officer Dr. Sproll confirmed at deposition that MorphoSys graphs depicting MOR03080 epitopes were different from 2005 to 2007 (*i.e.*, before and after the Jerini Replitope Report). *See* Sproll Dep. Tr. at 239:2-240:14; *see also* Steidl Dep. Tr. at 228:12-17 (“the two depictions are different”). Yet the Patent Office received only one.

324. The 2007 R&D meeting data came from the Jerini Replitope Report. Again, the figure below compares the MOR03080 epitope reported in patent Figure 7 (top) with the Jerini Replitope Results (colored), which are also seen in the 2007 presentation:

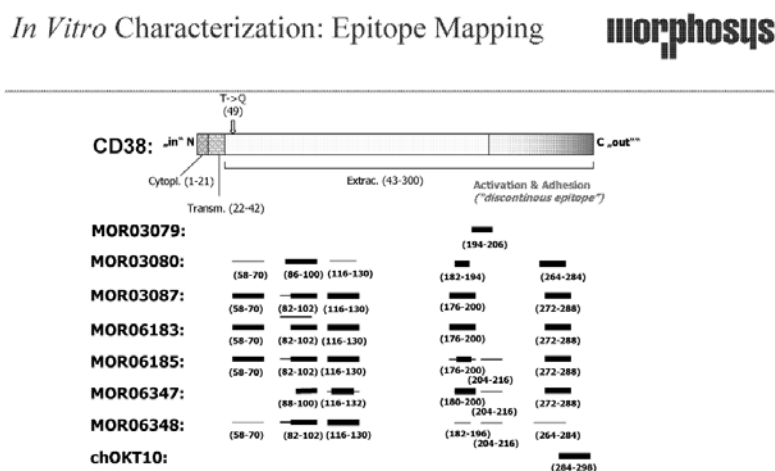


325. This “Epitope Mapping” data was presented alongside other results, with no mention made of the data being unreliable in any way. *See* Steidl Dep. Tr. at 222:25-227:19

(Dr. Steidl unable to point to any document that stated that epitope results in the 2007 R&D Meeting presentation were not reliable).

326. MorphoSys testified that this 2007 presentation (Ex. 1123) containing revised MOR03080 epitope data based on the Jerini Replitope Report was provided to top company management, including the CEO and CSO of MorphoSys. See Steidl Dep. Tr. at 220:18-221:16 (“In the framework of the RDM, and indeed the three Vorstand members have been CC’d”). And this was done without qualification – with no mention of the new data being unreliable or flawed in any way. Rather, it was presented as the accurate data, which MorphoSys nevertheless withheld from the Patent Office, putting issuance of their patents above truth and candor.

327. **Reliance on MOR03080 and MOR03087 Replitope Results—2007 Vorstand Presentation:** On information and belief, on Feb. 8, 2007, the MOR202 Project Team also presented to the board and senior executives of MorphoSys (“Vorstand”) the presentation “Development of MOR202 for Multiple Myeloma: Selection of a lead candidate for an IND-enabling development programme.” MSYS_00267821 These slides again included the same depiction of MOR03080 and MOR03087 epitopes derived from the Jerini Replitope Report:

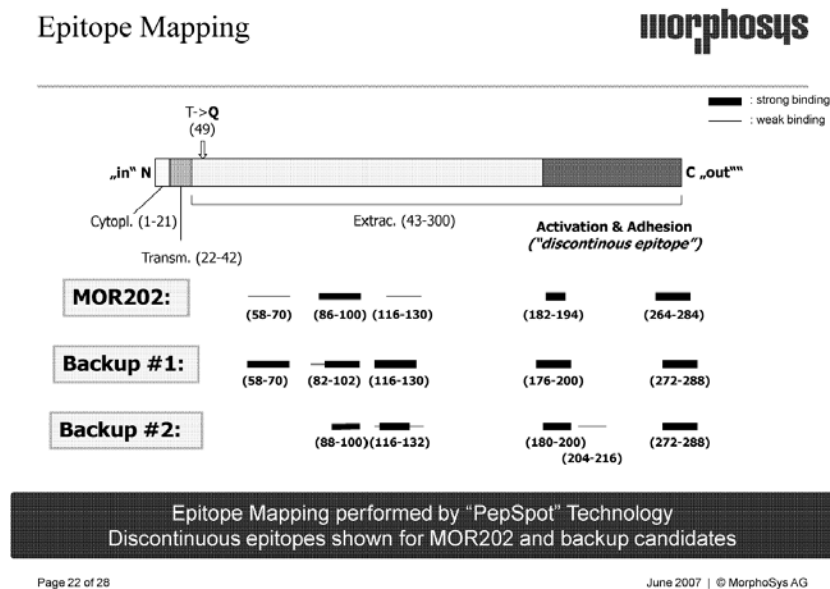


-Discontinuous epitopes shown for MOR03080, MOR03087 & 03088 derivatives
 -Similar profiles of MOR03080, MOR03087, MOR03087- & 03088-derivatives
 -Marmoset cross-reactivity could reside within aa116-130?

MSYS_00267821 at Slide 16.

328. *Reliance on MOR03080 and MOR03087 Replitope Results—2007 Ahrens*

Conference Presentation: On information and belief, on June 18-20, 2007 MorphoSys employee Bianca Ahrens (Scientist, Research & Development) presented “MOR202: A Fully Human Antibody against CD38 for the Treatment of Multiple Myeloma and other Blood Borne Malignancies” at the “24th International Conference, ‘Advances in the Application of Monoclonal Antibodies in Clinical Oncology,’ Limassol, Cyprus.” The final-version slides (see May 25, 2007 Ahrens email, MSYS_01968789) include, without qualification or caveat, epitope data for MOR03080 (here called “MOR202,” as it was still at this time considered the lead candidate), along with MOR03087 (here called “Backup #1”) that precisely matches the Jerini Replitope Report (and contradicts Figure 7 in the Patents-in-Suit):

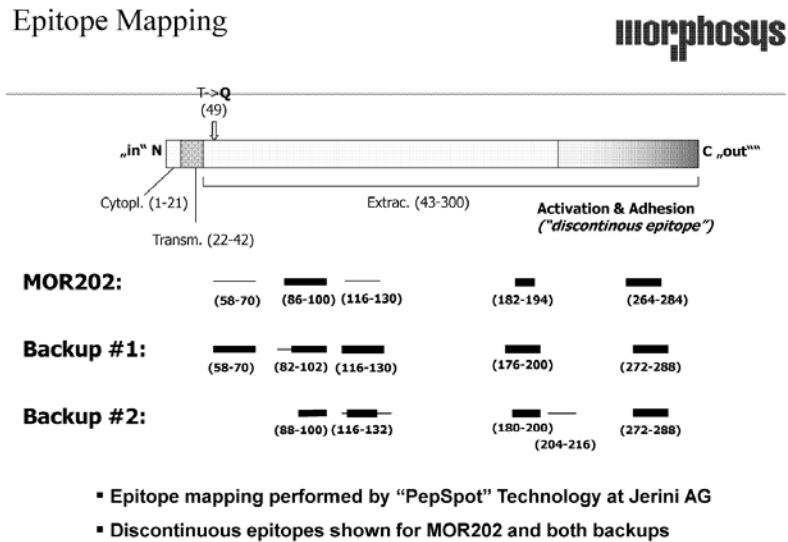


MSYS_01968790 at Slide 22; MSYS_01047175 at Slide 22.

329. *Reliance on MOR03080 and MOR03087 Replitope Results—2007 Tesar ASCO*

Conference Presentation: On information and belief, on Apr. 30, 2007, Dr. Tesar presented a series of slides at the 2007 ASCO Conference (see MSYS_00093843 and MSYS_00092990).

These slides included the same depiction of MOR03080 and MOR03087 epitopes derived from the Jerini Replitope Report:



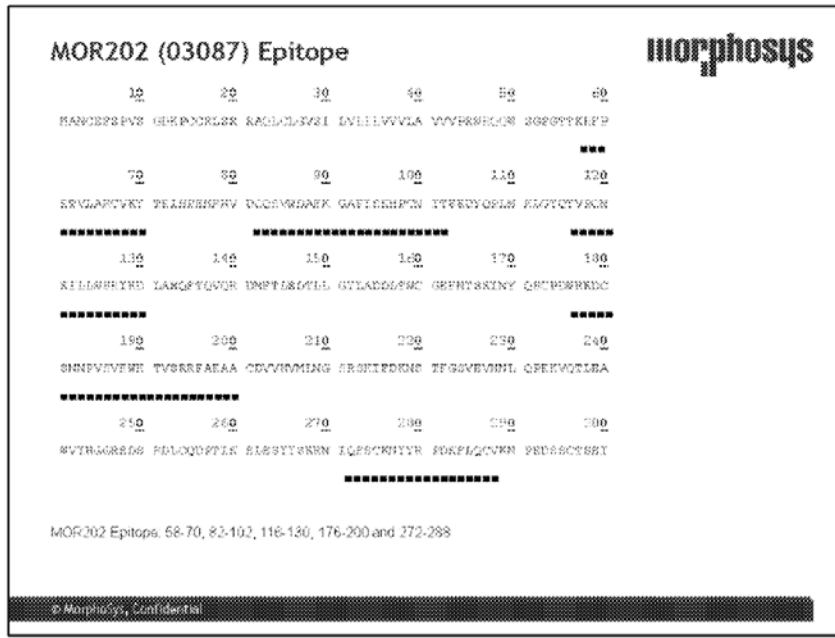
Page 11

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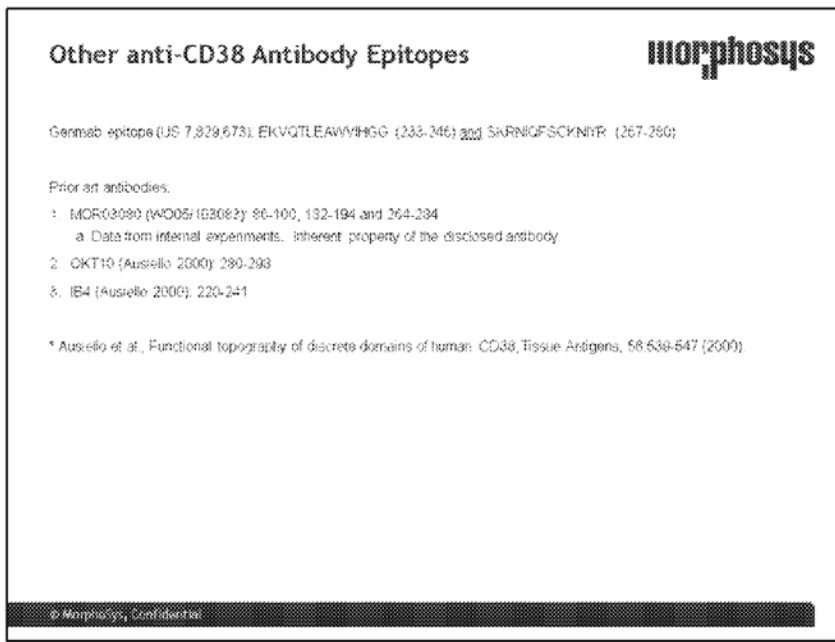
MSYS_00092991 at Slide 11.

330. Similar slides were also communicated to a Professor Keppler on Jan. 14, 2008 (see MSYS_01036829 from MorphoSys business development to Prof. Keppler, providing “further information on our MOR202 oncology program”; see also attachment MSYS_01036830 at slide 22).

331. *Reliance on MOR03080 and MOR03087 Replitope Results—Communications with [REDACTED]:* In February 2013, Mr. Wiegel wrote to [REDACTED], subject “MOR202 epitope,” (MSYS_01884788) attaching a slide presentation (MSYS_01884789) that reported both the MOR03080 and MOR03087 epitopes using data drawn from the Jerini Replitope Report:

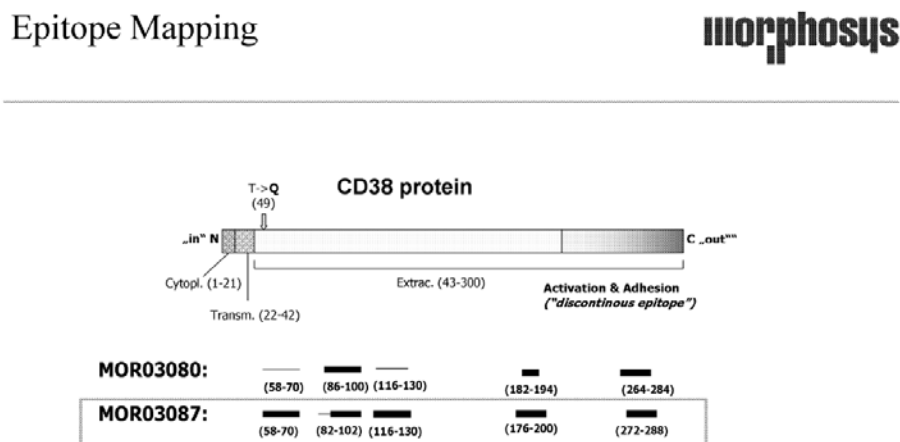


MSYS_01884789 at slide 2 (Reporting “MOR202 Epitope: 58-70, 82-102, 116-130, 176-200, and 272-288”).



MSYS_01884789 at slide 3 (Reporting “MOR03080 (WO05/103083): 86-100, 182-194, and 264-284”).

332. Further, Extensive Reliance on MOR03087 Replitope Results, and Epitope Comparisons of MOR03087 to Genmab's Accused Product: In an 84-slide December 2008 PowerPoint presentation titled "MOR202: Characterization of MOR03087: Project Update," MorphoSys presented "Epitope Mapping" data for both MOR03080 and MOR03087, with values exactly matching the ranges reported in the Jerini Replitope Report:



- Discontinuous epitopes shown for MOR03087 and MOR03080
- Similar profile for MOR03087 and MOR03080

MSYS_00064221 at slide 26.

333. And in this same 2008 presentation, MorphoSys directly compared its MOR03087 clinical lead candidate to its Sanofi and Genmab competitors, including a comparison of epitopes. In a row titled "Epitope Mapping (MOR)," MorphoSys reported the MOR03087 epitope as "Peptides recognized: aa 58-70, aa 82-102, aa 116-130, aa 176-200, aa 272-288," which again directly corresponds to the Jerini Replitope Report (and contradicts Figure 7 of the Patents-in-Suit):

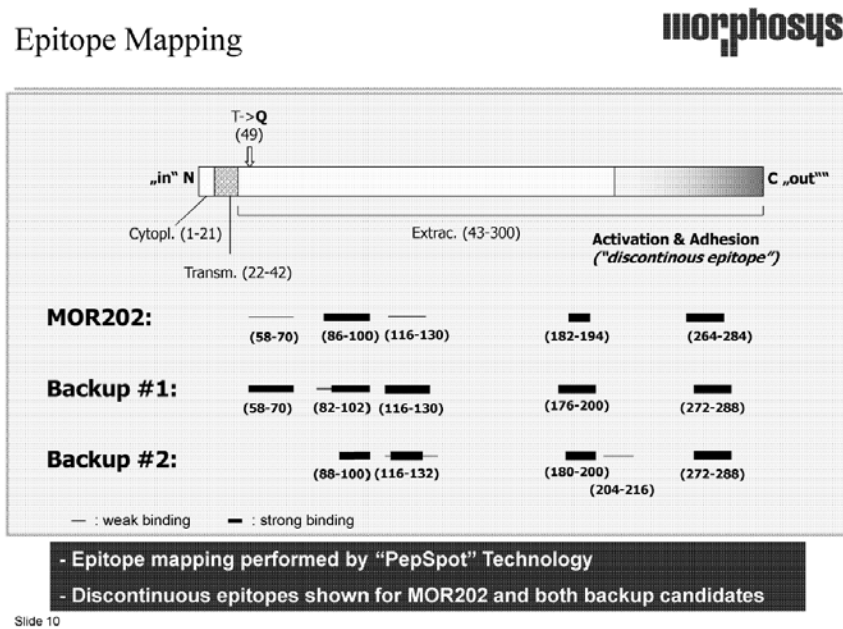
Epitope Mapping (Genmab)	FACS: Competition with 0B3 and 0B5 on CHOCD38+ (no info on 024)	no comp. with 0B5	no comp. with 0B3	no info															
	Peptides recognized: SKRNQFSCNRYR (aa257-280) & EKVDLEAWYHGG (aa253-246)	+	+	+															
	Sub-Motif: RNDG especially recognized by antibody	+																	
Epitope Mapping (MOR)	Sub-Motif: KRN & VQTL especially recognized by antibody		+																
	Peptides recognized: aa 58-70; aa 82-102; aa 116-130; aa 176-200; aa 272-288																		

Potential lead antibodies: GenMAB-005, SA 38SB19

October 2008 | © MorphoSys AG

[MSYS_00064221 at slide 84.](#)

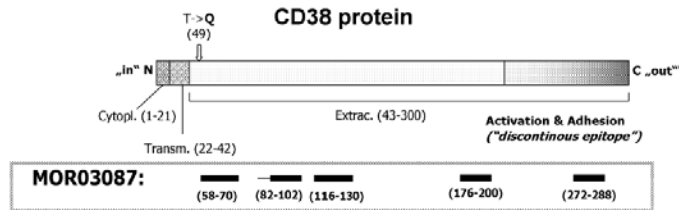
334. In another slide presentation, MorphoSys again included epitope data taken from the Jerini Replitope Report for MOR03080 (here listed as “MOR202”), as well as for MOR03087 (here still listed as “Backup #1):



[MSYS_00078190 at slide 10.](#)

335. In an April 2009 presentation for a “confidential MOR pipeline presentation held... at Tracon,” which “combine[s] data already presented at a conference plus some new slides,” (see accompanying email MSYS_00012791), MorphoSys again relied on the Jerini Replitope Report data for MOR03087:

Epitope Mapping



- Discontinuous epitope shown for MOR03087

MSYS_00012821 at slide 17.

336. *MorphoSys's Knowledge of Contradictory Data and Selective Disclosure:*

Contemporaneous documents show MorphoSys knew that its Figure 7 data was contradicted at the very least by the Jerini Replitope Report.

337. In a 2009 email, Dr. Tesar stated that "[u]nfortunately," in doing the follow-up Jerini epitope mapping, "the old epitopes from MOR03080 could not be completely confirmed... I have also brought this up at Jerini, but they are unable to give me a reason for this." Ex. 1111.

338. Dr. Tesar also stated that of "two epitope mappings from Jerini," "[f]or the patent, we have taken the data from the first epitope mapping." *Id.*

339. Dr. Tesar stated in an August 18, 2011 email to Dr. Steidl that MOR03080 had been used in the Jerini Replitope Report as a "positive control," but that "[u]nfortunately, there was only partial agreement of the MOR03080 with the already available epitope from the very first Jerini measurement... Discontinuing epitopes are certainly much more difficult to determine than linear ones." Ex. 1173.

340. In the same 2011 email to Dr. Steidl, Dr. Tesar stated that MorphoSys had “agreed on further mapping experiment using RepliTope Peptide Microarray”, noted that the Jerini Replitope Report was “evaluable,” and then stated “[a]s far as I know, only the results from the ‘evaluable’ report were used for the patent? Please correct me if I am wrong here.” *Id.*

341. This 2011 email was sent mere weeks before the continuation-in-part application that would eventually issue as the ’061 Patent was filed, and exactly two months before MorphoSys submitted new ’746 claims 142-148 to the Patent Office, directed to, e.g., “[a]n isolated antibody or antibody fragment thereof containing an antigen-binding region... which specifically binds within amino acids **82-94 or 158-170** of CD38”—stating that “[s]upport for these claims can be found, for example, at Figure 7 and ¶¶ 0136-0138 of the published specification.”

342. These exchanges reveal that at least Drs. Tesar and Steidl knew that the results of the Jerini Replitope Report were usable, reliable, and should be “used for the patent,” and also reveal that they specifically selected which results should be and were being used “for the patent”—and yet the Jerini Replitope Results never were submitted to the Patent Office.

343. Mr. Wiegel knew of and relied upon the MOR03080 epitope results from the Jerini Replitope Report, and in fact specifically communicated the Jerini Replitope Report to Celgene in May 2013. Celgene asked for “a summary of the results of the MOR3080 epitope mapping,” and Mr. Wiegel responded, “[p]lease find attached the summary of the MOR3080 epitope mapping.” Mr. Wiegel attached only the Jerini Replitope Report, in its entirety:

Sender: Paul Wiegel </O=MORPHOSYS_GMBH/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=PAULW>
Sent: Wednesday, May 29, 2013 11:05:45 AM
Recipient: Carla Kuhner <ckuhner@celgene.com>
Cc: Konstantin Petropoulos <Konstantin.Petropoulos@morphosys.com>; Ariel Jasie <ajasie@celgene.com>
Subject: RE: MOR3080 epitope MAP
Attachments: Antibody_Profiling_Tesar-8190_final.pdf

Dear Carla

Thanks for your patience. Please find attached the summary of the MOR3080 epitope mapping. Please let me know if you would like to discuss.

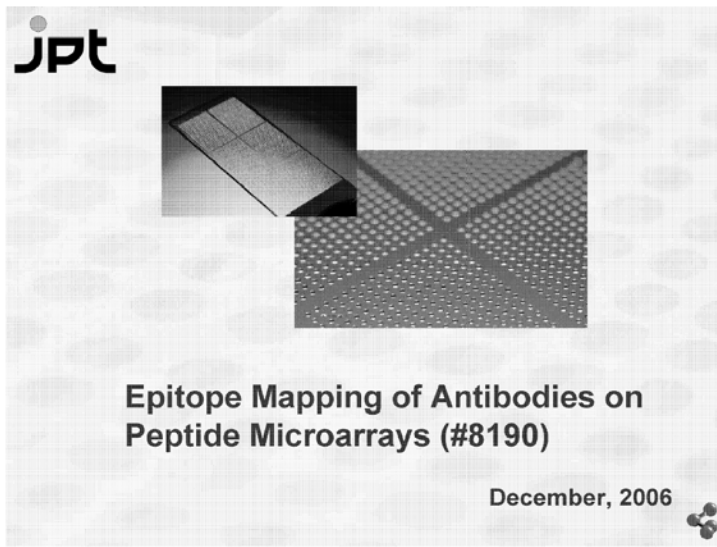
Kind regards,

Paul

Paul F. Wiegel, J.D., LL.M.
Associate Director, Intellectual Property
U.S. Patent Attorney

MorphoSys AG
Lena-Christ-Str. 48
D-82152 Planegg-Martinsried

[MSYS_00575470.](#)



[MSYS_00575472.](#)

344. Mr. Wiegel also knew of MorphoSys's reliance on the Jerini Replitope Report for MOR03087 epitope data. See MSYS_01679593 (Mar. 1 2013 email to Wiegel), listing epitopes "found for MOR03087" including "58-70," "82-102," "116-130," "176-200," and "272-288":

Paul Wiegel

From: Roy Elyenstein
Sent: Freitag, 1. März 2013 15:41
To: Jan Endell; Stéphane Leclair; Paul Wiegel; Daniel Weinfurtner; Konstantin Petropoulos
Subject: RE: Genmabs epitope claim
Attachments: 3087_epitope_backside.png; 3087_epitope_frontside.png; 3087_epitope_backside_cartoon.png

Dear all,

here is the CD38 with epitope colored per region which was found for MOR03087. Same orientation! Also as cartoon representation.

Legend:

Color	→	region
Red	→	58-70
Orange	→	82-102
Yellow	→	116-130
Brown	→	176-200
Pink+Violet (overlap)	→	272-288

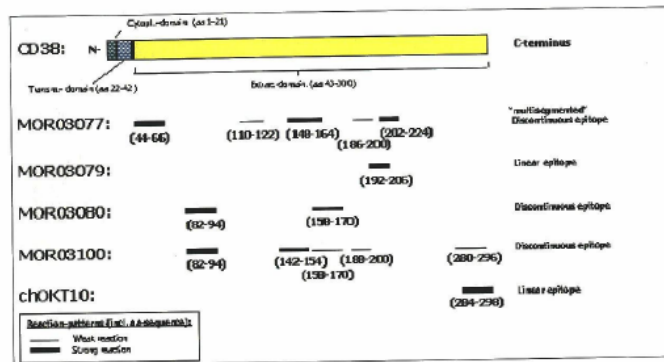
For further questions, please drop me a line or give me a call.

Best, Roy

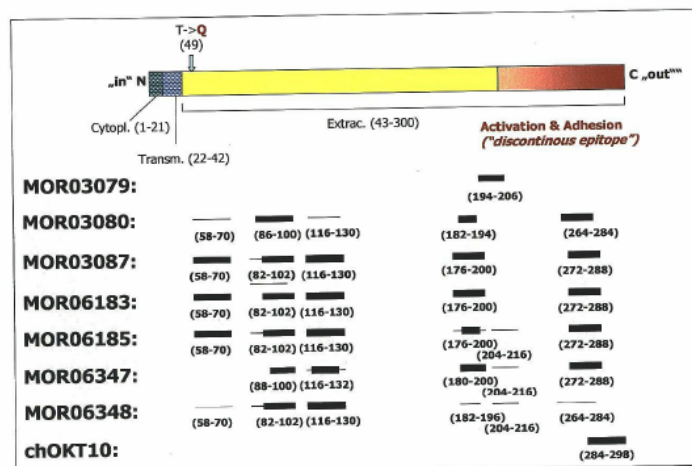
[MSYS_01679593.](#)

345. Moreover, Mr. Wiegel knew that MorphoSys had obtained conflicting epitope results for MOR03080, and that only the initial results had been disclosed to the Patent Office. Mr. Wiegel is listed as custodian of MSYS_00387361, which compares “[e]pitope mapping” results, and lists Figure 7 epitope data for MOR03080, noting in the caption that this data is “From... CD38 patent,” and directly below, listing the entirely different Jerini Replitope Report epitope data for MOR03080, with the caption “fort he [sic] project transfer (3rd June 2008)”:

Epitope mapping



From CD38 final report and CD38 patent



From the summary of MOR03087 data for the project transfer (3rd June 2008)

MSYS_00387361.

346. A copy of this same comparison figure, with the same captions noting use of the top results in the “CD38 patent,” also was sent to Dr. Tesar on Sep. 6, 2010. See MSYS_00414162, attaching MSYS_00414163.

347. The **only** reasonable conclusion from this evidence is that at least Dr. Tesar, Dr. Steidl, Dr. Sproll, and Mr. Wiegel acted with specific intent to deceive the Patent Office. They were more concerned with obtaining their patents than with their duty of candor to the Patent Office.

348. **Summary:** In support of Figure 7—the sole support for every epitope-based claim in every Patent-in-Suit—MorphoSys submitted to the Patent Office only the results from the initial Jerini 3571 Report, and did not submit the contradictory results of the Jerini Replitope Report obtained from the same “state of the art” vendor—despite MorphoSys’s own extensive reliance (without qualification) on that same data, and despite the lead inventor explicitly stating his belief that the Jerini Replitope Report results had been “used for the patent.” Ex. 1173.

349. Drs. Tesar, Steidl, and Sproll, Mr. Wiegel, and other individuals associated with the filing or prosecution of the patent applications, did not disclose to the Patent Office the Jerini Replitope Report. The Jerini Replitope Report not only directly contradicts the Figure 7 epitope for MOR03080, but also calls into question the reliability of every epitope region reported in Figure 7 of the Patents-in-Suit—the very figure upon which all epitope claims in the Patents-in-Suit are based.

350. Figure 7, with MOR03080 results corrected to show the contradictory epitope from the Jerini Replitope Report, is shown below:



351. Drs. Tesar, Steidl, and Sproll, Mr. Wiegel, and other individuals associated with the filing or prosecution of the patent applications, also did not disclose to the Patent Office other results that contradicted Figure 7, including the NMI MapART peptide mapping results, the NMI EST report, the Fc-fusion ELISA, or the Malavasi Competition Experiment results.

352. Furthermore and in particular, Dr. Steidl’s changing deposition testimony regarding the reliability of the Jerini Replitope Report and his criticism of that report despite MorphoSys’s own reliance on it are strong evidence of intent to deceive the Patent Office.

353. On information and belief, the instruction to withhold anti-CD38 epitope mapping information came from the highest levels of the company—for example, MorphoSys Chief Scientific Officer Dr. Sproll wrote to CD38 project scientists in 2005 that “[w]ith regard to further work on the epitope mapping [of] CD38: Please keep in mind that we at first have to ensure with IP that we do not compromise our already files [sic] patent application!!” Ex. 1124. This is strong evidence that MorphoSys was aware of its duty to report contradictory results, yet intended to “ensure” that its actions did not “compromise” the already filed patent applications.

354. The single most reasonable conclusion (and indeed the only credible conclusion) from this evidence is Dr. Tesar, Dr. Steidl, Dr. Sproll, and/or Mr. Wiegel, and potentially other individuals associated with the filing or prosecution of the patent applications, acted with specific intent to deceive the Patent Office.

First Claim for Relief
(Unenforceability of the '746 Patent)

355. MorphoSys brought an action against Janssen for alleged infringement of the '746 Patent.

356. The '746 Patent is unenforceable due to inequitable conduct for the reasons set forth in paragraphs 198 to 354 above, incorporated herein by reference. MorphoSys's conduct renders this case exceptional under 35 U.S.C. § 285.

357. An actual and justiciable controversy exists between the parties with respect to the '746 Patent. Janssen is entitled to a declaratory judgment that the '746 Patent is unenforceable.

Second Claim for Relief
(Unenforceability of the '061 Patent)

358. MorphoSys brought an action against Janssen for alleged infringement of the '061 Patent.

359. The '061 Patent is unenforceable due to inequitable conduct for the reasons set forth in paragraphs 198 to 354 above, incorporated herein by reference. MorphoSys's conduct renders this case exceptional under 35 U.S.C. § 285.

360. An actual and justiciable controversy exists between the parties with respect to the '061 Patent. Janssen is entitled to a declaratory judgment that the '061 Patent is unenforceable.

Third Claim for Relief
(Unenforceability of the '590 Patent)

361. MorphoSys brought an action against Janssen for alleged infringement of the '590 Patent.

362. The '590 Patent is unenforceable due to inequitable conduct for the reasons set forth in paragraphs 198 to 354 above, incorporated herein by reference. MorphoSys's conduct renders this case exceptional under 35 U.S.C. § 285.

363. An actual and justiciable controversy exists between the parties with respect to the '590 Patent. Janssen is entitled to a declaratory judgment that the '590 Patent is unenforceable.

PRAYER FOR RELIEF

WHEREFORE, Janssen respectfully requests the following relief:

(a) ~~(a)~~—the entry of judgment on the Second Amended Complaint in favor of Janssen, and against MorphoSys, with MorphoSys not being awarded any relief;

(b) ~~(b)~~—the entry of judgment that Janssen has not infringed and is not infringing any valid and enforceable claim of the '746, '061, or '590 Patents, either directly or indirectly, contributorily or by inducement, literally or under the doctrine of equivalents;

(c) ~~(c)~~—the entry of judgment that each and every claim of the '746, '061, or '590 Patents is invalid;

(d) ~~(d)~~ — a declaratory judgment that the '746, '061, and '590 Patents are unenforceable;

(e) ~~(e)~~ — denial of MorphoSys's request for damages, attorney fees, costs, and expenses;

(f) ~~(e)~~ — a declaration that this is an "exceptional case" within the meaning of 35 U.S.C. § 285, and an award to Janssen of its expenses, costs and attorneys' fees; and

(g) ~~(f)~~ — an award to Janssen of such other and further equitable or legal relief as the Court deems just and proper.

MORRIS, NICHOLS, ARSHT & TUNNELL LLP

/s/ Brian P. Egan

Jack B. Blumenfeld (#1014)

Brian P. Egan (#6227)

1201 North Market Street

P.O. Box 1347

Wilmington, DE 19899

(302) 658-9200

jblumenfeld@mnat.com

began@mnat.com

Attorneys for Defendant Janssen Biotech, Inc.

OF COUNSEL:

Michael A. Morin

David P. Frazier

Emily K. Sauter

LATHAM & WATKINS LLP

555 Eleventh Street, NW

Suite 1000

Washington, DC 20004

(202) 637-2200

Roger J. Chin

LATHAM & WATKINS LLP

505 Montgomery Street, Suite 2000

Suite 2000

San Francisco, CA 94111

(415) 391-0600

Michael R. Seringhaus

LATHAM & WATKINS LLP

140 Scott Drive

Menlo Park, CA 94306

(650) 328-4600

~~Brenda L. Danek~~

~~Ann Marie Wahls~~

~~LATHAM & WATKINS LLP~~

~~3300 North Wabash Avenue~~

~~Suite 2800~~

~~Chicago, IL 60611~~

~~(312) 867-7700~~

~~October 26, 2017~~

March 5, 2018

EXHIBIT C

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

MORPHOSYS AG,)	
)	
Plaintiff,)	
)	
v.	)	C.A. No. 16-221 (LPS) (CJB)
)	
JANSSEN BIOTECH, INC.,	)	CONTAINS CONFIDENTIAL
GENMAB US, INC. and GENMAB A/S,	)	INFORMATION – FILED UNDER
	)	SEAL
Defendants.)	

**DEFENDANTS GENMAB US, INC. AND GENMAB A/S’S AMENDED
ANSWER TO SECOND AMENDED COMPLAINT AND COUNTERCLAIMS**

Defendants Genmab US, Inc., and Genmab A/S (collectively, “the Genmab Defendants”) submit this Amended Answer to the Second Amended Complaint filed by Plaintiff MorphoSys AG (“MorphoSys”) on October 11, 2017 (D.I. 205, the “Second Amended Complaint”). To the extent not specifically admitted in the following paragraphs, the allegations in the Second Amended Complaint are denied.

PARTIES¹

1. The Genmab Defendants are without information or knowledge sufficient to form a belief as to the truth of the allegations in paragraph 1 of the Second Amended Complaint, and therefore deny them.

2. The Genmab Defendants are without knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 2 of the Second Amended Complaint, and therefore deny them.

¹ Solely for convenience and clarity, the Genmab Defendants have repeated herein the headings used by MorphoSys in the Second Amended Complaint. Although the Genmab Defendants need not respond to headings, the Genmab Defendants nonetheless deny the contents of the headings to the extent they can be construed to contain substantive allegations.

3. Upon information and belief, the Genmab Defendants admit the allegations in paragraph 3 of the Second Amended Complaint.

4. The Genmab Defendants admit that Defendant Genmab A/S is a biotechnology company founded in Denmark with its principal place of business at Bredgade 34E, 1260 Copenhagen K, Denmark.

5. The Genmab Defendants admit that Genmab US, Inc. is a subsidiary of Genmab A/S and is a corporation organized and existing under the laws of the state of Delaware.

NATURE OF THE ACTION

6. The Genmab Defendants admit that MorphoSys purports to assert infringement of United States Patent Nos. 8,263,746 (the “746 Patent”), 9,200,061 (the “061 Patent”), and 9,758,590 (the “590 Patent”) under the Patent Laws of the United States, 35 U.S.C. §§ 1 *et seq.* Upon information and belief, the Genmab Defendants admit that Darzalex[®] is the registered trade name for daratumumab, and that the current United States Food and Drug Administration (FDA)-approved label for Darzalex[®] indicates that the active ingredient in Darzalex[®] is daratumumab, a CD38-directed cytolytic antibody, indicated for use in combination with lenalidomide and dexamethasone, or bortezomib and dexamethasone, for the treatment of patients with multiple myeloma who have received at least one prior therapy, in combination with pomalidomide and dexamethasone, for the treatment of patients with multiple myeloma who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor (PI), or as monotherapy for the treatment of patients with multiple myeloma who have received at least three prior lines of therapy including a proteasome inhibitor (PI) and an immunomodulatory agent or who are double-refractory to a PI and an immunomodulatory agent. The Genmab Defendants deny that MorphoSys is entitled to any relief and deny the remaining allegations in paragraph 6 of the Second Amended Complaint.

JURISDICTION AND VENUE

7. The Genmab Defendants admit that MorphoSys purports to assert that this Court has jurisdiction over the subject matter of the claims pursuant to 28 U.S.C. §§ 1331 and 1338(a), as alleged in paragraph 7 of the Second Amended Complaint, and admit, solely for the purpose of this action, that the Genmab Defendants do not contest the existence of subject matter jurisdiction over the Counts I–XII of the Second Amended Complaint to the extent those counts are directed to the Genmab Defendants.

8. This paragraph is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 8 of the Second Amended Complaint.

9. This paragraph is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 9 of the Second Amended Complaint.

10. Genmab A/S denies that this Court has personal jurisdiction over Genmab A/S with respect to Counts I–XII of the Second Amended Complaint to the extent those counts are directed to Genmab A/S. Genmab US, Inc., admits that this Court has personal jurisdiction over Genmab US, Inc. with respect to Counts I–XII of the Second Amended Complaint to the extent those counts are directed to Genmab US, Inc. The Genmab Defendants also admit that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants deny the remaining allegations in paragraph 10 of the Second Amended Complaint.

11. The Genmab Defendants admit that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012,

and refer to the license agreement for its full and complete contents. The Genmab Defendants deny the remaining allegations in paragraph 11 of the Second Amended Complaint.

12. The Genmab Defendants admit that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants admit that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the Investigational New Drug Application (IND) and provided input on Janssen's Biologics License Application (BLA) seeking FDA approval for daratumumab. The Genmab Defendants admit, upon information and belief, that Janssen is the sole owner and sponsor of the BLA for daratumumab, that Janssen has the exclusive right to market and sell Darzalex[®] (daratumumab) in the United States, and that the Genmab Defendants do not make, use, sell, or offer for sale Darzalex[®] (daratumumab) in the United States, or import Darzalex[®] (daratumumab) into the United States. The Genmab Defendants admit that their employees have attended conferences in the United States. The Genmab Defendants admit that inventions by Genmab A/S scientists have been granted U.S. Patent No. 7,829,673, assigned to Genmab A/S, and that the '673 Patent discloses and claims daratumumab. The Genmab Defendants admit that Genmab A/S registered the HuMax[®] trademark for "Chemicals used in industry and science, namely, monoclonal antibodies for in vivo or in vitro scientific research and development regarding cancer," and "Pharmaceutical preparations based on human monoclonal antibodies for the treatment of cancer." The Genmab Defendants admit that Genmab A/S has used the HuMax[®] trademark in connection with several antibody products that they created, including those unrelated to daratumumab. The Genmab Defendants deny the remaining allegations in paragraph 12 of the Second Amended Complaint.

13. The Genmab Defendants admit that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants also admit that Dr. van de Winkel made statements regarding Darzalex[®] subsequent to that agreement. The Genmab Defendants admit that Genmab A/S's 2015 Annual Report, cited in paragraph 13 of the Second Amended Complaint, includes the statement: "Together with Janssen, we continue to work on the further development of daratumumab, both within the multiple myeloma space as well as in other cancer indications," in a section of the Report discussing clinical studies and regulatory applications. The Genmab Defendants deny the remaining allegations in paragraph 13 of the Second Amended Complaint.

14. The Genmab Defendants admit that certain employees of Genmab A/S or its foreign affiliates were involved in the initiation of the preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab, and have taken credit for their participation. The Genmab Defendants deny the remaining allegations in paragraph 14 of the Second Amended Complaint.

15. The Genmab Defendants admit that Genmab US, Inc. is a corporation formed and existing under the laws of the state of Delaware, and that Genmab, Inc. merged with Genmab US, Inc. in 2013.

16. The Genmab Defendants admit that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants deny the remaining allegations in paragraph 16 of the Second Amended Complaint.

17. Genmab US, Inc. does not dispute venue in this district for the purpose of this action. Genmab A/S denies the allegation in paragraph 17 of the Second Amended Complaint.

FACTUAL BACKGROUND

18. The Genmab Defendants admit that the '746 Patent is entitled "Anti-CD38 Human Antibodies and Uses Thereof" and that September 11, 2012, is identified on the face of the '746 Patent as its date of issuance. The Genmab Defendants admit that Exhibit A purports to be a true and correct copy of the '746 Patent. The Genmab Defendants deny the remaining allegations in paragraph 18 of the Second Amended Complaint.

19. The Genmab Defendants admit that the '061 Patent is entitled "Generation and Profiling of Fully Human HuCAL Gold®-Derived Therapeutic Antibodies Specific for Human CD3[8]," as corrected by the Certificate of Correction dated May 10, 2016. The Genmab Defendants admit that December 1, 2015, is identified on the face of the '061 Patent as its date of issuance. The Genmab Defendants admit that Exhibit B purports to be a true and correct copy of the '061 Patent. The Genmab Defendants deny the remaining allegations in paragraph 19 of the Second Amended Complaint.

20. Genmab Defendants admit that the '590 Patent is entitled "Anti-CD38 Human Antibodies and Uses Thereof," and that September 12, 2017, is identified on the face of the '590 Patent as its date of issuance. Genmab Defendants admit that Exhibit C purports to be a true and correct copy of the '590 Patent. The Genmab Defendants deny the remaining allegations of paragraph 20 of the Second Amended Complaint.

21. The Genmab Defendants admit that "MorphoSys AG" is listed as the assignee on the face of the '746 Patent and refer to the patent for its full and complete contents. The Genmab Defendants lack knowledge or information sufficient to form a belief about the truth of the

remaining allegations in paragraph 21 of the Second Amended Complaint and therefore deny them.

22. The Genmab Defendants admit that “MorphoSys AG” is listed as the assignee on the face of the ’061 Patent and refer to the patent for its full and complete contents. The Genmab Defendants lack knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 22 of the Second Amended Complaint and therefore deny them.

23. Genmab Defendants admit that “Morpho Sys AG” is listed as the assignee on the face of the ’590 Patent and refers to the patent for its full and complete contents. Genmab Defendants lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 23 of the Second Amended Complaint and therefore denies them.

24. The Genmab Defendants admit that the ’746 Patent is entitled “Anti-CD38 Human Antibodies and Uses Thereof” and refer to the patent for its full and complete contents. The Genmab Defendants admit that the ’061 Patent is entitled “Generation and Profiling of Fully Human HuCAL Gold[®]-Derived Therapeutic Antibodies Specific for Human CD3[8],” as corrected by the Certificate of Correction dated May 10, 2016, and refer to the patent for its full and complete contents. Genmab Defendants admit that the ’590 Patent is entitled “Anti-CD38 Human Antibodies and Uses Thereof,” and refers to the patent for its full and complete contents. The Genmab Defendants admit that CD38 is a surface protein that is expressed by multiple myeloma cells. The Genmab Defendants lack knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 24 of the Second Amended Complaint and therefore deny them.

25. Upon information and belief, the Genmab Defendants admit that multiple myeloma is a common blood cancer that afflicts many people in the United States resulting in many deaths. The Genmab Defendants deny the remaining allegations in paragraph 25 of the Second Amended Complaint.

26. The Genmab Defendants admit that certain employees of Genmab A/S or its foreign affiliates invented daratumumab. The Genmab Defendants admit that certain employees of Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab. The Genmab Defendants deny the remaining allegations in paragraph 26 of the Second Amended Complaint.

27. Upon information and belief, the Genmab Defendants admit that the current FDA-approved label for Darzalex[®] indicates that daratumumab is a CD38-directed cytolytic antibody indicated for use "in combination with lenalidomide and dexamethasone, or bortezomib and dexamethasone, for the treatment of patients with multiple myeloma who have received at least one prior therapy"; "in combination with pomalidomide and dexamethasone, for the treatment of patients with multiple myeloma who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor (PI)"; or "as monotherapy for the treatment of patients with multiple myeloma who have received at least three prior lines of therapy including a proteasome inhibitor (PI) and an immunomodulatory agent or who are double-refractory to a PI and an immunomodulatory agent." The Genmab Defendants deny the remaining allegations in paragraph 27 of the Second Amended Complaint.

28. Upon information and belief, the Genmab Defendants admit that the current FDA-approved label for Darzalex[®] states that daratumumab is a CD38-directed cytolytic antibody

indicated for use “in combination with lenalidomide and dexamethasone, or bortezomib and dexamethasone, for the treatment of patients with multiple myeloma who have received at least one prior therapy”; “in combination with pomalidomide and dexamethasone, for the treatment of patients with multiple myeloma who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor (PI)”; or “as monotherapy, for the treatment of patients with multiple myeloma who have received at least three prior lines of therapy including a proteasome inhibitor (PI) and an immunomodulatory agent or who are double-refractory to a PI and an immunomodulatory agent.” Upon information and belief, the Genmab Defendants admit Darzalex[®] is administered to patients. The Genmab Defendants deny the remaining allegations in paragraph 28 of the Second Amended Complaint.

29. The Genmab Defendants admit that Genmab A/S granted Janssen a worldwide exclusive license for the development, manufacture, and commercialization of daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants deny the remaining allegations in paragraph 29 of the Second Amended Complaint.

30. The Genmab Defendants admit that Genmab A/S granted Janssen a worldwide exclusive license for the development, manufacture, and commercialization of daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants admit that pursuant to the license agreement, Genmab A/S received from Janssen a \$55 million payment as an upfront license fee and a \$45 million payment associated with the first commercial sale by Janssen in the United States, and certain milestone payments. The Genmab Defendants also admit that Johnson & Johnson Development Corporation invested DKK 475 million, which corresponded to approximately \$80 million, in Genmab A/S shares. The Genmab Defendants deny the remaining allegations in paragraph 30 of the Second Amended Complaint.

31. Upon information and belief, the Genmab Defendants admit that the FDA granted fast track and breakthrough therapy approval to Janssen for Darzalex[®] (daratumumab) on November 16, 2015. The Genmab Defendants admit, upon information and belief, that Janssen is the sole owner and sponsor of the BLA for daratumumab, that Janssen has the exclusive right to market and sell Darzalex[®] (daratumumab) in the United States, and that the Genmab Defendants do not make, use, sell, or offer for sale Darzalex[®] (daratumumab) in the United States, or import Darzalex[®] (daratumumab) into the United States. The Genmab Defendants deny the remaining allegations in paragraph 31 of the Second Amended Complaint.

32. The Genmab Defendants admit that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants admit that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab. The Genmab Defendants admit, upon information and belief, that Janssen is the sole owner and sponsor of the BLA for daratumumab, that Janssen has the exclusive right to market and sell Darzalex[®] (daratumumab) in the United States, and that the Genmab Defendants do not make, use, sell, or offer for sale Darzalex[®] (daratumumab) in the United States, or import Darzalex[®] (daratumumab) into the United States. The Genmab Defendants deny the remaining allegations in paragraph 32 of the Second Amended Complaint.

33. The Genmab Defendants admit that Genmab A/S provided Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refer to the license agreement for its full and complete contents. Upon information and belief, the Genmab Defendants admit that Janssen obtained FDA fast track and breakthrough

therapy approval to market Darzalex[®] (daratumumab) in November 2015; admits that as the sole owner and sponsor of the BLA for daratumumab, Janssen has had exclusive rights to market and sell Darzalex[®] (daratumumab) in the United States since then; and admits that the Genmab Defendants do not make, use, sell, or offer for sale Darzalex[®] (daratumumab) in the United States, or import Darzalex[®] (daratumumab) into the United States. The Genmab Defendants admit that Genmab A/S has issued media releases reporting the progress of clinical studies relating to daratumumab, and admits that these media releases are primarily targeted to investors and potential investors of Genmab A/S as part of the company's disclosure obligations under applicable law. The Genmab Defendants deny the remaining allegations in paragraph 33 of the Second Amended Complaint.

34. The Genmab Defendants deny the allegations in paragraph 34 of the Second Amended Complaint.

35. Upon information and belief, the Genmab Defendants admit the allegations in paragraph 35 of the Second Amended Complaint.

36. The Genmab Defendants admit that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants admit that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab. The Genmab Defendants admit that paragraph 36 of the Second Amended Complaint refers to a transcript of a conference call of August 30, 2012, and refer to the transcript for its full and complete contents. The Genmab Defendants further admit with respect to the GEN504 clinical trial, Dr. Van de Winkel stated in part, "Janssen will operationally

execute that one, but Genmab will be very, very involved because we wrote the protocol etc. But Janssen will operationally manage that.” The Genmab Defendants deny the remaining allegations in paragraph 36 of the Second Amended Complaint.

37. The Genmab Defendants admit that United States Patent No. 7,829,673 (the “’673 Patent”) was filed on March 23, 2006, and that Genmab A/S is listed as the assignee on the face of the ’673 Patent.

38. The Genmab Defendants admit that WO/2005/103083 A2 refers to an antibody called “MOR03079”; admit that PCT publication WO/2005/103083 A2 is cited in the ’673 Patent; admit that the PCT publication was cited by Genmab A/S on an Information Disclosure Statement during prosecution of the ’673 Patent; admit that the United States Patent and Trademark Office determined that the subject matter claimed in the ’673 Patent was patentable over WO/2005/103083; and admit that the ’673 Patent issued on November 9, 2010, before the issuance of the ’746 Patent. The Genmab Defendants also admit that the monoclonal antibody daratumumab is referred to in the specification of the ’673 Patent as the “–005 antibody.” The Genmab Defendants admit that the ’673 Patent provides data indicating that Genmab’s –005 antibody exhibited superior characteristics in comparison to MOR03079. The Genmab Defendants also admit that the ’746 Patent is purportedly the National Phase patent derived from the PCT publication. The Genmab Defendants deny the remaining allegations in paragraph 38 of the Second Amended Complaint.

39. The Genmab Defendants deny the allegations in paragraph 39 of the Second Amended Complaint.

40. The Genmab Defendants admit that, upon information and belief, the current FDA-approved label for Darzalex[®] (daratumumab) indicates that daratumumab “binds to CD38

and inhibits the growth of CD38 expressing tumor cells.” The Genmab Defendants admit that the determination of where an antibody binds on a specific antigen may depend on the test used, and that no such determination for daratumumab has been made using the “PepSpot-Analysis” described in the ’746 Patent. The Genmab Defendants admit that paragraph 38 of the Second Amended Complaint references a document that states, “[a]mino acids D202, Q272, and especially S274 are essential for daratumumab binding,” and admits that those results were not obtained using the “PepSpot-Analysis” described in the ’746 Patent. The Genmab Defendants deny the remaining allegations in paragraph 40 of the Second Amended Complaint.

41. The Genmab Defendants deny the allegations in paragraph 41 of the Second Amended Complaint.

42. The Genmab Defendants deny the allegations in paragraph 42 of the Second Amended Complaint.

43. This paragraph is directed to Janssen and no response is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 43 of the Second Amended Complaint.

44. The Genmab Defendants admit that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants admit that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen’s BLA seeking FDA approval for daratumumab. The Genmab Defendants deny the remaining allegations in paragraph 44 of the Second Amended Complaint.

45. The Genmab Defendants deny the allegations in paragraph 45 of the Second Amended Complaint.

46. The Genmab Defendants admit that the link provided in paragraph 46 of the Second Amended Complaint links to a webpage that appears to be dated "6-12-2012," and that the web page refers to the '746 Patent, but deny that the '746 Patent issued by June 12, 2012. The Genmab Defendants admit that they learned of the '746 Patent after its issuance, but deny that the '746 Patent was part of Genmab A/S's efforts to develop anti-CD38 antibodies or seek partners for Darzalex[®]. The Genmab Defendants deny the remaining allegations in paragraph 46 of the Second Amended Complaint.

47. The Genmab Defendants admit that paragraph 47 of the Second Amended Complaint refers to a transcript of a conference call, and refer to the transcript for its full and complete contents. The Genmab Defendants admit that the transcript indicates that Dr. Van de Winkel stated, in part, that "this patent was known since 2011 and has been studied very carefully. There has been extensive due diligence by Janssen as well as more than 10 other pharma or biotech companies on this patent case, we believe." The Genmab Defendants deny the remaining allegations in paragraph 47 of the Second Amended Complaint.

48. The Genmab Defendants deny the allegations in paragraph 48 of the Second Amended Complaint.

49. The Genmab Defendants admit that Genmab A/S filed a European Opposition to EP2511297 B1 on January 8, 2016. Upon information and belief, Janssen also filed a European Opposition to EP2511297 B1. The Genmab Defendants admit that the '746 Patent purports to be the National Stage Entry of PCT/IB2005/002476, which was published as Int'l Patent Publ. No. WO2005/103083 and European Patent No. EP2511297 A1. The Genmab Defendants admit that

EP2511297 B1 and the '746 Patent purport to claim priority to United States Provisional Application Nos. 60/614,471; 60/599,014; 60/553,948; 60/547,584; and 60/541,911. The Genmab Defendants deny the remaining allegations in paragraph 49 of the Second Amended Complaint.

50. This paragraph is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants admit, upon information and belief, that Janssen knew of the issuance of the '746 Patent after its issuance, but deny the remaining allegations in paragraph 50 of the Second Amended Complaint.

51. The Genmab Defendants admit that they learned of the '746 Patent after its issuance. The Genmab Defendants deny the remaining allegations in paragraph 51 of the Second Amended Complaint.

52. This paragraph is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent an answer is deemed required, the Genmab Defendants admit, upon information and belief, that Janssen knew of the issuance of the '061 Patent after its issuance, but deny the remaining allegations in paragraph 52 of the Second Amended Complaint.

53. The Genmab Defendants admit that they learned of the '061 Patent after its issuance. The Genmab Defendants deny the remaining allegations in paragraph 53 of the Second Amended Complaint.

54. This paragraph is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants admit, upon information and belief, that Janssen knew of the issuance of

the '590 Patent after its issuance, but deny the remaining allegations in paragraph 54 of the Second Amended Complaint.

55. The Genmab Defendants admit the allegations in paragraph 55 of the Second Amended Complaint.

56. The Genmab Defendants admit that they knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, and that they were aware of the '590 Patent upon its issuance. The Genmab Defendants admit, upon information and belief, that Janssen knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, was aware of the '590 Patent upon its issuance, and that Janssen has sold Darzalex[®] since then. The Genmab Defendants otherwise deny the allegations in paragraph 56 of the Second Amended Complaint.

57. The Genmab Defendants admit that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants admit that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab. The Genmab Defendants deny the remaining allegations in paragraph 57 of the Second Amended Complaint.

58. The Genmab Defendants deny the allegations in paragraph 58 of the Second Amended Complaint.

59. The Genmab Defendants deny the allegations in paragraph 59 of the Second Amended Complaint.

60. The Genmab Defendants deny the allegations in paragraph 60 of the Second Amended Complaint.

61. The Genmab Defendants deny the allegations in paragraph 61 of the Second Amended Complaint.

62. The Genmab Defendants deny the allegations in paragraph 62 of the Second Amended Complaint.

63. The Genmab Defendants deny the allegations in paragraph 63 of the Second Amended Complaint.

64. Upon information and belief, the Genmab Defendants admit that the Indications and Usage section of the current FDA-approved label for Darzalex[®] states that “DARZALEX is a CD38-directed cytolytic antibody indicated” “in combination with lenalidomide and dexamethasone, or bortezomib and dexamethasone, for the treatment of patients with multiple myeloma who have received at least one prior therapy”, “in combination with pomalidomide and dexamethasone, for the treatment of patients with multiple myeloma who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor (PI)”, or “as monotherapy, for the treatment of patients with multiple myeloma who have received at least three prior lines of therapy including a proteasome inhibitor (PI) and an immunomodulatory agent or who are double-refractory to a PI and an immunomodulatory agent.” The Genmab Defendants deny the remaining allegations in paragraph 64 of the Second Amended Complaint.

65. The Genmab Defendants deny the allegations in paragraph 65 of the Second Amended Complaint.

66. Upon information and belief, the Genmab Defendants admit that Janssen is conducting clinical studies in support of additional indications for Darzalex[®] (daratumumab).

The Genmab Defendants deny the remaining allegations in paragraph 66 of the Second Amended Complaint.

COUNT I
Infringement of the '746 Patent by Janssen

67. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants repeat and reallege their responses to paragraphs 1 through 66 of the Second Amended Complaint as if fully set forth herein.

68. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 68 of the Second Amended Complaint.

69. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 69 of the Second Amended Complaint.

70. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 70 of the Second Amended Complaint.

71. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 71 of the Second Amended Complaint.

COUNT II
Infringement of the '746 Patent by Genmab

72. The Genmab Defendants repeat and reallege their responses to paragraphs 1 through 71 of the Second Amended Complaint as if fully set forth herein.

73. The Genmab Defendants deny the allegations in paragraph 73 of the Second Amended Complaint.

74. The Genmab Defendants deny the allegations in paragraph 74 of the Second Amended Complaint.

75. The Genmab Defendants deny the allegations in paragraph 75 of the Second Amended Complaint.

COUNT III
Infringement of the '746 Patent by Genmab US, Inc.

76. The Genmab Defendants repeat and reallege their responses to paragraphs 1 through 75 of the Second Amended Complaint as if fully set forth herein.

77. The Genmab Defendants deny the allegations in paragraph 77 of the Second Amended Complaint.

78. The Genmab Defendants deny the allegations in paragraph 78 of the Second Amended Complaint.

79. The Genmab Defendants deny the allegations in paragraph 79 of the Second Amended Complaint.

COUNT IV
Infringement of the '746 Patent by Janssen/Genmab/Genmab US, Inc.

80. The Genmab Defendants repeat and reallege their responses to paragraphs 1 through 79 of the Second Amended Complaint as if fully set forth herein.

81. The Genmab Defendants deny the allegations in paragraph 81 of the Second Amended Complaint.

82. The Genmab Defendants deny the allegations in paragraph 82 of the Second Amended Complaint.

83. The Genmab Defendants deny the allegations in paragraph 83 of the Second Amended Complaint.

84. The Genmab Defendants deny the allegations in paragraph 84 of the Second Amended Complaint.

85. The Genmab Defendants deny the allegations in paragraph 85 of the Second Amended Complaint.

COUNT V
Infringement of the '061 Patent by Janssen

86. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants repeat and reallege their responses to paragraphs 1 through 85 of the Second Amended Complaint as if fully set forth herein.

87. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 87 of the Second Amended Complaint.

88. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 88 of the Second Amended Complaint.

89. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 89 of the Second Amended Complaint.

90. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 90 of the Second Amended Complaint.

91. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants admit, upon information and belief, that Janssen received a copy of the '061 Patent at the time MorphoSys sought leave to file the First Amended Complaint and that Janssen knew of the issuance of the '061 Patent after its issuance. The Genmab Defendants otherwise deny the allegations in paragraph 91 of the Second Amended Complaint.

92. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 92 of the Second Amended Complaint.

93. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants admit, upon information and belief, that Janssen received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that Janssen knew of the issuance of the '061 Patent after its issuance. The Genmab Defendants deny the remaining allegations in paragraph 93 of the Second Amended Complaint.

94. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 94 of the Second Amended Complaint.

95. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 95 of the Second Amended Complaint.

96. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 96 of the Second Amended Complaint.

97. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 97 of the Second Amended Complaint.

98. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 98 of the Second Amended Complaint.

COUNT VI
Infringement of the '061 Patent by Genmab

99. The Genmab Defendants repeat and reallege their responses to paragraphs 1 through 98 of the Second Amended Complaint as if fully set forth herein.

100. The Genmab Defendants deny the allegations in paragraph 100 of the Second Amended Complaint.

101. The Genmab Defendants deny the allegations in paragraph 101 of the Second Amended Complaint.

102. The Genmab Defendants deny the allegations in paragraph 102 of the Second Amended Complaint.

103. The Genmab Defendants deny the allegations in paragraph 103 of the Second Amended Complaint.

104. The Genmab Defendants admit that they received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that they knew of the

issuance of the '061 Patent after its issuance. The Genmab Defendants otherwise deny the remaining allegations in paragraph 104 of the Second Amended Complaint.

105. The Genmab Defendants deny the allegations in paragraph 105 of the Second Amended Complaint.

106. The Genmab Defendants admit that they received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. The Genmab Defendants deny the remaining allegations in paragraph 106 of the Second Amended Complaint.

107. The Genmab Defendants deny the allegations in paragraph 107 of the Second Amended Complaint.

108. The Genmab Defendants deny the allegations in paragraph 108 of the Second Amended Complaint.

109. The Genmab Defendants deny the allegations in paragraph 109 of the Second Amended Complaint.

110. The Genmab Defendants deny the allegations in paragraph 110 of the Second Amended Complaint.

COUNT VII
Infringement of the '061 Patent by Genmab US, Inc.

111. The Genmab Defendants repeat and reallege their responses to paragraphs 1 through 110 of the Second Amended Complaint as if fully set forth herein.

112. The Genmab Defendants deny the allegations in paragraph 112 of the Second Amended Complaint.

113. The Genmab Defendants deny the allegations in paragraph 113 of the Second Amended Complaint.

114. The Genmab Defendants deny the allegations in paragraph 114 of the Second Amended Complaint.

115. The Genmab Defendants deny the allegations in paragraph 115 of the Second Amended Complaint.

116. The Genmab Defendants admit that they received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. The Genmab Defendants otherwise deny the remaining allegations in paragraph 116 of the Second Amended Complaint.

117. The Genmab Defendants deny the allegations in paragraph 117 of the Second Amended Complaint.

118. The Genmab Defendants admit that they received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. The Genmab Defendants deny the remaining allegations in paragraph 118 of the Second Amended Complaint.

119. The Genmab Defendants deny the allegations in paragraph 119 of the Second Amended Complaint.

120. The Genmab Defendants deny the allegations in paragraph 120 of the Second Amended Complaint.

121. The Genmab Defendants deny the allegations in paragraph 121 of the Second Amended Complaint.

122. The Genmab Defendants deny the allegations in paragraph 122 of the Second Amended Complaint.

COUNT VIII

Infringement of the '061 Patent by Janssen/Genmab/Genmab US, Inc.

123. The Genmab Defendants repeat and reallege their responses to paragraphs 1 through 122 of the Second Amended Complaint as if fully set forth herein.

124. The Genmab Defendants deny the allegations in paragraph 124 of the Second Amended Complaint.

125. The Genmab Defendants deny the allegations in paragraph 125 of the Second Amended Complaint.

126. The Genmab Defendants deny the allegations in paragraph 126 of the Second Amended Complaint.

127. The Genmab Defendants deny the allegations in paragraph 127 of the Second Amended Complaint.

128. The Genmab Defendants admit, upon information and belief, that Janssen received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that Janssen knew of the issuance of the '061 Patent after its issuance. The Genmab Defendants admit that they received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. The Genmab Defendants otherwise deny the remaining allegations in paragraph 128 of the Second Amended Complaint.

129. The Genmab Defendants deny the allegations in paragraph 129 of the Second Amended Complaint.

130. The Genmab Defendants admit, upon information and belief, that Janssen received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that Janssen knew of the issuance of the '061 Patent after its issuance.

The Genmab Defendants admit that they received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. The Genmab Defendants otherwise deny the allegations in paragraph 130 of the Second Amended Complaint.

131. The Genmab Defendants deny the allegations in paragraph 131 of the Second Amended Complaint.

132. The Genmab Defendants deny the allegations in paragraph 132 of the Second Amended Complaint.

133. The Genmab Defendants deny the allegations in paragraph 133 of the Second Amended Complaint.

134. The Genmab Defendants deny the allegations in paragraph 134 of the Second Amended Complaint.

135. The Genmab Defendants deny the allegations in paragraph 135 of the Second Amended Complaint.

COUNT VIII
Infringement of the '590 Patent by Janssen

136. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants repeat and reallege their responses to paragraphs 1 through 135 of the Second Amended Complaint as if fully set forth herein.

137. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 137 of the Second Amended Complaint.

138. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 138 of the Second Amended Complaint.

139. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 139 of the Second Amended Complaint.

140. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 140 of the Second Amended Complaint.

141. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants admit, on information and belief, that Janssen knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, was aware of the '590 Patent upon its issuance, and that Janssen has sold Darzalex® since then. The Genmab Defendants otherwise deny the allegations in paragraph 141 of the Second Amended Complaint.

142. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 142 of the Second Amended Complaint.

143. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants admit, on information and belief, that Janssen knew of the issuance of the '590

Patent after its issuance. The Genmab Defendants deny the remaining allegations in paragraph 143 of the Second Amended Complaint.

144. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 144 of the Second Amended Complaint.

145. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 145 of the Second Amended Complaint.

146. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 146 of the Second Amended Complaint.

147. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 147 of the Second Amended Complaint.

COUNT X
Infringement of the '590 Patent by Genmab

148. The Genmab Defendants repeat and reallege their responses to paragraphs 1 through 147 of the Second Amended Complaint as if fully set forth herein.

149. The Genmab Defendants deny the allegations in paragraph 149 of the Second Amended Complaint.

150. The Genmab Defendants deny the allegations in paragraph 150 of the Second Amended Complaint.

151. The Genmab Defendants deny the allegations in paragraph 151 of the Second Amended Complaint.

152. The Genmab Defendants deny the allegations in paragraph 152 of the Second Amended Complaint.

153. The Genmab Defendants admit that they knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, that they were aware of the '590 Patent upon its issuance, and that Janssen has sold Darzalex® since then. The Genmab Defendants otherwise deny the allegations in paragraph 153 of the Second Amended Complaint.

154. The Genmab Defendants deny the allegations in paragraph 154 of the Second Amended Complaint.

155. The Genmab Defendants admit that they knew of the issuance of the '590 Patent after its issuance. The Genmab Defendants deny the remaining allegations in paragraph 155 of the Second Amended Complaint.

156. The Genmab Defendants deny the allegations in paragraph 156 of the Second Amended Complaint.

157. The Genmab Defendants deny the allegations in paragraph 157 of the Second Amended Complaint.

158. The Genmab Defendants deny the allegations in paragraph 158 of the Second Amended Complaint.

159. The Genmab Defendants deny the allegations in paragraph 159 of the Second Amended Complaint.

COUNT XI
Infringement of the '590 Patent by Genmab US, Inc.

160. The Genmab Defendants repeat and reallege their responses to paragraphs 1 through 159 of the Second Amended Complaint as if fully set forth herein.

161. The Genmab Defendants deny the allegations in paragraph 161 of the Second Amended Complaint.

162. The Genmab Defendants deny the allegations in paragraph 162 of the Second Amended Complaint.

163. The Genmab Defendants deny the allegations in paragraph 163 of the Second Amended Complaint.

164. The Genmab Defendants deny the allegations in paragraph 164 of the Second Amended Complaint.

165. The Genmab Defendants admit that they knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, that they were aware of the '590 Patent upon its issuance, and that Janssen has sold Darzalex[®] since then. The Genmab Defendants otherwise deny the allegations in paragraph 165 of the Second Amended Complaint.

166. The Genmab Defendants deny the allegations in paragraph 166 of the Second Amended Complaint.

167. The Genmab Defendants admit that they knew of the issuance of the '590 Patent after its issuance. The Genmab Defendants deny the remaining allegations in paragraph 167 of the Second Amended Complaint.

168. The Genmab Defendants deny the allegations in paragraph 168 of the Second Amended Complaint.

169. The Genmab Defendants deny the allegations in paragraph 169 of the Second Amended Complaint.

170. The Genmab Defendants deny the allegations in paragraph 170 of the Second Amended Complaint.

171. The Genmab Defendants deny the allegations in paragraph 171 of the Second Amended Complaint.

COUNT XII

Infringement of the '590 Patent by Janssen/Genmab/Genmab US, Inc.

172. The Genmab Defendants repeat and reallege their responses to paragraphs 1 through 171 of the Second Amended Complaint as if fully set forth herein.

173. The Genmab Defendants deny the allegations in paragraph 173 of the Second Amended Complaint.

174. The Genmab Defendants deny the allegations in paragraph 174 of the Second Amended Complaint.

175. The Genmab Defendants deny the allegations in paragraph 175 of the Second Amended Complaint.

176. The Genmab Defendants deny the allegations in paragraph 176 of the Second Amended Complaint.

177. The Genmab Defendants admit that they knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, and that they were aware of the '590 Patent upon its issuance. The Genmab Defendants admit, upon information and belief, that Janssen knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, was aware of the '590 Patent upon its issuance, and that Janssen has sold Darzalex[®] since then. The Genmab Defendants otherwise deny the allegations in paragraph 177 of the Second Amended Complaint.

178. The Genmab Defendants deny the allegations in paragraph 178 of the Second Amended Complaint.

179. The Genmab Defendants admit that they knew of the issuance of the '590 Patent after its issuance. The Genmab Defendants admit, upon information and belief, that Janssen knew of the issuance of the '590 Patent after its issuance. The Genmab Defendants otherwise deny the allegations in paragraph 179 of the Second Amended Complaint.

180. The Genmab Defendants deny the allegations in paragraph 180 of the Second Amended Complaint.

181. The Genmab Defendants deny the allegations in paragraph 181 of the Second Amended Complaint.

182. The Genmab Defendants deny the allegations in paragraph 182 of the Second Amended Complaint.

183. The Genmab Defendants deny the allegations in paragraph 183 of the Second Amended Complaint.

184. The Genmab Defendants deny the allegations in paragraph 184 of the Second Amended Complaint.

MORPHOSYS'S PRAYER FOR RELIEF

185. The Genmab Defendants reassert and incorporate herein by reference their responses to Paragraphs 1 through 184 of the Second Amended Complaint and deny that MorphoSys is entitled to any relief or judgment against the Genmab Defendants whatsoever, including the relief requested in paragraphs A–F of the Second Amended Complaint. All allegations not specifically admitted are denied.

DEMAND FOR JURY TRIAL

186. The Genmab Defendants acknowledge that the Second Amended Complaint sets forth a demand for trial by jury.

GENMAB A/S AFFIRMATIVE DEFENSE

(No Personal Jurisdiction and Improper Venue)

187. The Second Amended Complaint should be dismissed against Genmab A/S under Federal Rule of Civil Procedure 12(b)(2) because this court lacks personal jurisdiction over Genmab A/S. Genmab A/S's contacts with the United States do not give rise to general or specific jurisdiction. The Second Amended Complaint should also be dismissed against Genmab A/S under Federal Rule of Civil Procedure 12(b)(3) because venue is improper in this Court.

188. Genmab A/S is not "at home" in the United States. Genmab A/S is a Danish corporation headquartered in Denmark. Nor does Genmab A/S have "substantial" contacts rendering this an "exceptional case." Thus, there is no general jurisdiction over Genmab A/S.

189. This Court also lacks specific personal jurisdiction over Genmab A/S because MorphoSys's claims for patent infringement do not arise out of or relate to Genmab A/S's activities in the United States. MorphoSys's Second Amended Complaint fails to plausibly establish any act of infringement by Genmab A/S (or by Genmab US, Inc., for that matter) in the United States, much less in Delaware. MorphoSys's claims of patent infringement therefore do not "arise" from these activities. The few contacts Genmab A/S has had with the United States do not constitute patent infringement and therefore fail to provide a basis for establishing specific jurisdiction in Delaware, or anywhere else in the United States.

190. Venue is also improper in this district. Because Genmab A/S does not "reside" in this district, and Genmab A/S has not committed acts of infringement in this district, venue does not properly lie in this district. 28 U.S.C. §§ 1391(c) & 1400(b).

THE GENMAB DEFENDANTS' JOINT AFFIRMATIVE DEFENSES

191. The Genmab Defendants hereby assert the following defenses, undertaking the burden of proof only to the extent required by law:

FIRST JOINT DEFENSE
(Noninfringement)

192. The making, using, offering to sell, selling and/or importing into the United States of the accused antibody product Darzalex[®] (daratumumab) has not infringed, does not infringe, and would not, if made, used, sold, offered for sale, and/or imported into the United States, directly or indirectly infringe any valid and enforceable claim of the '746, '061, or '590 Patents, either literally or under the doctrine of equivalents.

SECOND JOINT DEFENSE
(No Induced Infringement)

193. The Genmab Defendants have not induced, do not induce, and will not induce infringement of any valid and enforceable claim of the '746, '061, or '590 Patents.

THIRD JOINT DEFENSE
(No Contributory Infringement)

194. The Genmab Defendants have not contributed, do not contribute, and will not contribute to infringement of any valid and enforceable claim of the '746, '061, or '590 Patents.

FOURTH JOINT DEFENSE
(Invalidity)

195. The claims of the '746 and '061 Patents are invalid for failure to satisfy one or more of the requirements of the patent laws of the United States, including but not limited to, 35 U.S.C. §§ 101, 102, 103, and/or 112.

FIFTH JOINT DEFENSE
(Failure to State a Claim)

196. The Second Amended Complaint fails to state a claim upon which relief can be granted.

SIXTH JOINT DEFENSE
(Prosecution History Estoppel)

197. MorphoSys's claims are barred, in whole or in part, by representations or actions taken during the prosecution of the '746, '061, or '590 Patents, and related patents and applications, under the doctrine of prosecution-history estoppel or prosecution disclaimer.

SEVENTH JOINT DEFENSE
(35 U.S.C. § 288)

198. MorphoSys is not entitled to seek recovery of its costs pursuant to 35 U.S.C. § 288.

EIGHTH JOINT DEFENSE
(Exceptional Case)

199. MorphoSys's pursuit of this case is exceptional under 35 U.S.C. § 285. The Genmab Defendants are entitled to an award of their attorneys' fees in connection with defending against this action.

NINTH JOINT DEFENSE
(Inequitable Conduct)

200. The '746, '061, and '590 Patents are unenforceable due to inequitable conduct, for the reasons set forth in paragraphs 202 to 358 of the Counterclaim, set forth below.

RESERVATION OF RIGHTS

201. In filing the defenses, the Genmab Defendants have not knowingly or intentionally waived any applicable defenses. The Genmab Defendants reserve the right to assert and rely upon any other applicable defenses that may become available or apparent during the

course of this action. The Genmab Defendants reserve the right to amend or to seek to amend their answer or affirmative defenses.

COUNTERCLAIMS

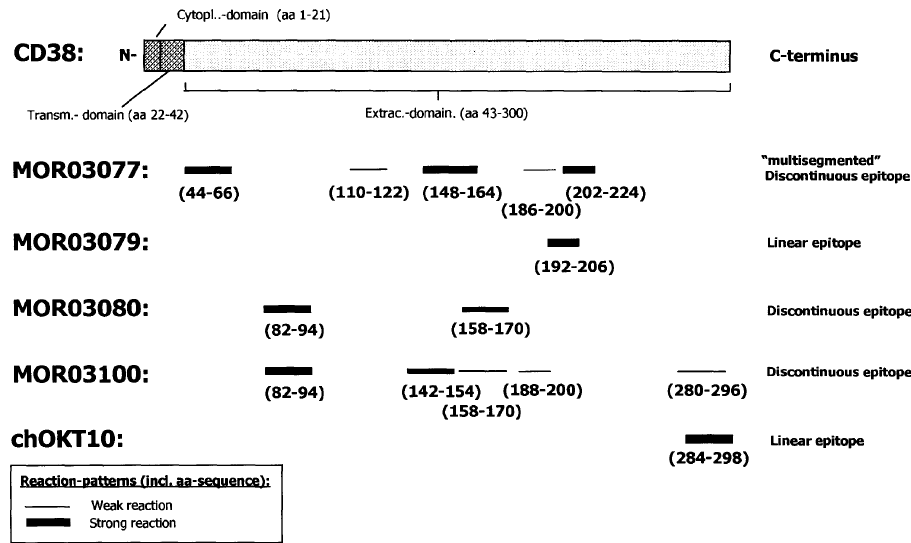
(Declaratory Judgment of Unenforceability)

202. This is a counterclaim for declaratory judgment pursuant to 28 U.S.C. §§ 2201 and 2202 for the purpose of determining an actual and justiciable controversy between the parties. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338 (a).

The Patents-in-Suit

203. The '746, '061, and '590 Patents all include claims to antibodies that bind to the naturally occurring protein CD38, and methods of using those antibodies. In an effort to distinguish these antibodies from those in the prior art, the claims define them, in whole or in part, according to their ability to bind specific regions of amino acids on the CD38 protein. For example, claim 15 of the '746 Patent claims an antibody that “specifically binds within amino acids 44-66, 82-94, 142-154, 148-164, 158-170, or 192-206 of CD38 (SEQ ID NO: 22).” '746 Patent 68:45-48 (claim 15). The patents define the regions of CD38 to which the claimed antibodies bind as their “epitope.” All three patents base these epitope claims solely on the data shown in Figure 7, described as “a schematic overview of epitopes of representative antibodies of the present invention” from a “PepSpot analysis” ('746 Patent at 5:23-24, 27:5-9):

Fig.7: Schematic Overview of Epitopes



204. Figure 7 sets forth the “purported” epitopes of four disclosed antibodies: MOR03077, MOR03079, MOR03080, and MOR03100. For example, MOR03080 is shown to bind an epitope consisting of amino acid regions 82-94 and 158-170 of CD38, whereas MOR03079 is shown to bind an epitope consisting of positions 192-206 of CD38. The prior art chOKT10 antibody is reported to bind an epitope consisting of amino acid region 284-298, which lies in the C-terminal region of CD38

205. Based solely on this Figure 7 data, the specifications of all three patents report that for MOR03080 the epitope “peptides comprise aa 82-94 and aa 158-170,” whereas “[t]he epitope for MOR03079 can be postulated within aa 192-206 (VSRRFAEAACDVVHV (SEQ ID NO: 38)) of CD38....” For MOR03077, the postulated epitope “includes aa 44-66, 110-122, 148-164, 186-200 and 202-224,” and for MOR03100, the epitope peptides comprise “aa 82-94, 142-154, 158-170, 188-200 and 280-296.” See ’746 Patent 27:22-36; ’061 Patent 26:38-52; ’590 Patent 24:39-53 (all Example 6).

206. Based solely on the epitope results presented in Figure 7, the Patents-in-Suit claim antibodies by their epitopes, and include claims directed specifically to any human or humanized antibodies that specifically bind within amino acids 82-94 and 158-170 (corresponding to MOR03080).

207. Both the '746 and '061 Patents claim specific antibodies (and methods of using them) that bind the epitope disclosed in Figure 7 for MOR03080, namely the amino acid regions 82-94 and 158-170 of CD38. These claims include '746 Patent asserted claim 15 (“specifically binds within amino acids 44-66, **82-94**, 142-154, 148- 164, **158-170**, or 192-206 of CD38”); '746 Patent claim 19 (“specifically binds within amino acids **82-94** or **158-170** of CD38”); '746 Patent claim 20 (“specifically binds within amino acids **82-94** or **158-170** of CD38”); '061 Patent claim 3 (“binds an epitope of CD38 that contains one or more amino acid residues within **82-94 and 158-170**”); and '061 Patent claims 5 through 15 (multiple dependent on claim 3). Although the '590 Patent does not include claims drawn specifically to the MOR03080 ranges 82-94 and 158-170, such claims were repeatedly sought during prosecution of that patent—at which point MorphoSys directed the examiner to the same Figure 7 data for support. *See* '590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 15. In addition, the ultimately issued claims, while directed to other amino acid sequences, likewise rely on Figure 7 for support.

Prosecution of the Patents-in-Suit

208. During prosecution, MorphoSys relied exclusively on Figure 7 as the sole written description support for its claimed epitope ranges.

209. For example, during prosecution of the '746 Patent, MorphoSys submitted new claims 142-148 directed to, *e.g.*, “[a]n isolated antibody or antibody fragment thereof containing an antigen-binding region... which specifically binds within amino acids **82-94** or **158-170** of

CD38”—a region identical to disclosed epitopes for MOR03080 in Figure 7. In its accompanying applicant remarks, MorphoSys told the Examiner that “[s]upport for these claims can be found, for example, at Figure 7 and ¶¶ 0136-0138 of the published specification.” ’746 Patent file history, Oct. 18, 2011 Response to Non-Final Rejection at 8. (The paragraphs of the published specification to which MorphoSys directed the Examiner, ¶¶ 0136-0138, describe only the results shown in Figure 7; these same paragraphs appear in each Patent-in-Suit as the “Summary and Conclusions” of Example 6, which is titled “Epitope Mapping.”) MorphoSys patent attorney Paul Wiegel also attended a telephonic interview during which the Examiner and MorphoSys’s representatives discussed epitopes for then-pending claims 100 and 101, and compared these claimed epitopes with those in the prior art. *See* ’746 Patent file history, Oct. 14, 2011 Applicant-Initiated Interview Summary at 2. (Then-pending claim 101 is directed to epitopes comprising 44-66, **82-94**, 142-154, 148-164, **158-170**, or 192-206 of CD38, and includes specifically recited regions corresponding to the Figure 7 epitope of MOR03080.)

210. During prosecution of the ’061 Patent, MorphoSys continued to tie claims explicitly to the epitopes identified in Figure 7, particularly MOR03080. For example, MorphoSys patent attorney Paul Wiegel signed and submitted an Amendment on June 17, 2015, again including claims based entirely and exclusively on the purported MOR03080 epitope shown in Figure 7 (*see, e.g.*, then-pending claim 30, directed to binding “an epitope of CD38 that contains one or more amino acid residues within **82-94** and **158-170**” of CD38). *See* ’061 Patent file history, June 17, 2015 Response after Final Rejection at 2 (containing claim amendments). In this Amendment, Mr. Wiegel stated that “the Examiner acknowledged that the specification provides support for the epitopes recited in claims 28-31.” ’061 Patent file history, June 17, 2015 Response after Final Rejection at 5. (The Examiner had indeed done so in an earlier Office

Action, relying exclusively and explicitly on Figure 7 for support for this conclusion. *See* '061 Patent file history, Apr. 20, 2015 Final Rejection at 4-6.)

211. Likewise during prosecution of the '590 Patent, MorphoSys again sought claims directed to the MOR03080 epitope regions 82-94 and 158-170. First, Mr. Wiegel signed and submitted a Dec. 4, 2015 preliminary amendment, in which MorphoSys sought claim 85 (including residues **82-94** and **158-170** of CD38), claim 109 (directed to an antibody “that binds to a CD38 peptide consisting of amino acid residues **82-94** of CD38”), and claim 110 (directed to an antibody that “binds to a CD38 peptide consisting of amino acid residues **158-170** of CD38), all of which are based on the Figure 7 epitope for MOR03080. *See* '590 Patent file history, Dec. 4, 2015 Preliminary Amendment at 15. Next, in a Feb. 4, 2016 amendment again signed and submitted by Mr. Wiegel, MorphoSys sought claim 115 (including residues **82-94** and **158-170** of CD38), claim 140 (directed to an antibody “that binds to a CD38 peptide of amino acid residues **82-94** of CD38”), and claim 141 (directed to an antibody that “binds to a CD38 peptide of amino acid residues **158-170** of CD38). *See* '590 Patent file history, Feb. 4, 2016 Preliminary Amendment at 2. MorphoSys and Mr. Wiegel again pointed the Examiner to “Figure 7 and paragraph [0146]” of the specification as support for its claims to antibodies binding to “CQSVWDAFKGAFI” and “TWCGEFNTSKINY” (positions **82-94** and **158-170** of CD38, which correspond to the epitope shown in Figure 7 for MOR03080). *See* '590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 15.

212. During prosecution, MorphoSys also relied on the epitopes disclosed in Figure 7 to distinguish its claims over the prior art. MorphoSys consistently characterized the prior art as disclosing only anti-CD38 antibodies that bind epitopes in the C-terminal region of CD38. For example, the shared specification of the '746 and '590 Patents states that all known anti-CD38

antibodies “seem to exclusively recognize epitopes (amino acid residues 220 to 300) located in the C-terminal part of CD38,” and that “[n]o antibodies are known so far that are specific for epitopes in the N-terminal part of CD38.” During prosecution of the ’746 Patent, MorphoSys distinguished its pending claims from the prior art Logtenberg “UM16” antibody because that prior art antibody competed with OKT10, while “[t]he epitope of the OKT10 antibody has been mapped to residues 280-298 at the carboxyl terminus of the 300 residue CD38 molecule.” *See* ’746 Patent file history, Apr. 8, 2011 Response to Restriction/Election Requirement at 10-11. Mr. Wiegel participated in an Examiner Interview in which he and the Examiner “[d]iscussed epitope of Logtenberg antibody in view of the epitope of the antibody in claims 100 and 101.” *See* ’746 Patent file history, Oct. 14, 2011 Applicant-Initiated Interview Summary. And similarly during prosecution of the ’590 Patent, MorphoSys again relied on the Figure 7 epitopes to distinguish its pending claims over the prior art, stating for example that “[a]pplicants respectfully submit that this epitope is novel and not taught or suggested by any of Antonelli, Ikehata or Mallone. Indeed, Applicants are not aware of any prior art that describes this amino acid region [192-206, taken from the Figure 7 epitope for MOR03079].” *See* ’590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 26-27.

213. MorphoSys also explicitly argued during prosecution that its then-pending claims allegedly satisfied the written description requirement under *Noelle* solely because of the epitope regions described in Figure 7:

In the instant case, Applicants’ claim 145 recites an antibody that binds to VSRRFAEAACDVVHV (SEQ ID NO: 38) [192-206 of CD38]. Applicants respectfully submit that Applicants have disclosed a fully characterized, novel antigen by its structure and, under *Noelle*, ‘the applicant can then claim an antibody by its binding affinity to that described antigen.’ *Id.* at 1349. Indeed, Applicants respectfully assert that the specification structurally and functionally describes the specifically claimed binding region, which was not known prior to Applicants’ discovery. As such, the novel amino acid sequence recited in

Applicants' claim constitutes a 'fully characterized' and to its knowledge 'novel antigen.' Accordingly, the instant claims fall squarely within the four corners of Noelle and a finding that the instant claims fully comply with the written description is required.

See '590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 19-20.

214. MorphoSys further based its written description argument on its alleged possession of antibodies that bind to the epitopes shown in Figure 7, stating for example that "[i]n addition, Applicants have actually reduced to practice the claimed anti-CD38 antibodies that bind to never-before bound regions of that protein, including the amino acid region of VSRRFAEAACDVVHV (SEQ ID NO: 38). So not only did Applicant fully disclose the novel antigens, Applicant generated the claimed antibodies. Therefore the person of skill in the art would appreciate that Applicant was in actual possession of the claimed antibodies." *See id.* at 21.

215. Thus, throughout prosecution and within the specifications of the Patents-in-Suit, MorphoSys pointed consistently and unequivocally only to Figure 7 to support its claims involving antibody epitopes on CD38. MorphoSys also explicitly relied on these Figure 7 epitopes during prosecution to distinguish its claims over the prior art, and to argue adequate written description. More specifically, MorphoSys repeatedly sought and obtained claims to antibodies that bound within the regions 82-94 and 158-170 based solely on the Figure 7 data for MOR03080. And MorphoSys did so knowing that the Figure 7 epitope data was at best unreliable—if not outright false—and concealed that fact from the Patent Office.

Deficiencies and Deception with Respect to Figure 7

216. Despite having based its entire patenting strategy on the alleged identification of a series of antibody epitopes to CD38, MorphoSys knew from the time it filed its first patent application that its alleged identification of epitopes rested on an untenable foundation. As

detailed below, by late 2006 MorphoSys held in hand data specifically contradicting its Figure 7 binding epitopes. Nonetheless, MorphoSys never updated or corrected its initial reporting of data to the Patent Office, and instead persisted for many years of additional prosecution—indeed it still maintains pending applications—to obtain the '746, '061, and '590 Patents-in-Suit, all based squarely on this same spurious data.

217. In seeking to patent its antibody development activities, MorphoSys faced several problems: Anti-CD38 antibodies were known in the prior art; CD38 was a known target for antibody therapy against multiple myeloma; and MorphoSys's own patent department had already identified competitor patents describing antibodies against CD38 and their use to treat multiple myeloma. Unable to assert that it was first to recognize CD38 as a target, first to make antibodies against CD38, or even first to develop potential antibody therapeutics, MorphoSys needed a way to distinguish its antibodies.

218. MorphoSys could have claimed the specific antibodies it developed and disclosed in the Patents-in-Suit (MOR03077, MOR03079, MOR03080, and MOR03100), but it knew those antibodies were unlikely ever to reach the clinic. MorphoSys gave up on MOR3100 within weeks of filing the first provisional applications from which the Patents-in-Suit claim priority, and although both MOR3079 and MOR3080 were for a time considered as potential leads in its "MOR202" project, they were ultimately found to be unacceptable. MorphoSys abandoned MOR03079, the initial "MOR202" lead candidate, in favor of MOR03080 by March 31, 2004, *see* MSYS_00993906, and also selected two "backup" candidates: MOR03087 and MOR06347— completely different antibodies not disclosed in the Patents-in-Suit. *See* MSYS_00058356; MSYS_00108246. MorphoSys then abandoned MOR03080 by February

2008. *See* MSYS_00059640. MOR03087 became known as “MOR202,” and emerged as MorphoSys’s sole candidate for use in human clinical trials.

219. Lacking specific examples of antibodies that might actually be developed as human therapies, MorphoSys sought broad claims through which it could assert coverage of the countless varieties of antibodies that its competitors might in the future develop. In short, MorphoSys claimed antibodies by their ability to bind specific regions of CD38 (i.e., according to their epitope).

220. Figure 7 is the sole source of all epitope information in the Patents-in-Suit. Figure 7 is taken directly from a single peptide array experiment performed for MorphoSys by Jerini, an outside vendor. From the start, MorphoSys knew that this peptide array technique was potentially unreliable, particularly with respect to so-called “discontinuous” epitopes (non-contiguous binding sites). Dr. Michael Tesar (a named inventor on all three Patents-in-Suit) questioned how the vendor was able to distinguish certain positive and negative results, and ultimately overrode initial binding site categorizations by the vendor. After MorphoSys had revised Jerini’s report, it gave rise to Figure 7 of the Patents-in-Suit.

221. But later follow-up experiments by the same vendor, Jerini, contradicted Figure 7—revealing a totally different epitope prediction for MOR03080 and so also calling into question the validity of the entire initial experiment. The record shows that MorphoSys adopted these later results internally and used them without reservation in presentations and communications with senior management. MorphoSys even presented these results at conferences and shared the data with third parties, including Celgene and [REDACTED]—again underscoring its reliability. MorphoSys updated its own (and others’) understanding of MOR03080’s epitope, with one notable exception: The Patent Office was

never told of the change. These later Jerini results were never reported to the Patent Office, despite being available during prosecution and relied upon heavily and without qualification by MorphoSys.

222. ***Jerini PepSpot Epitope Mapping Report #3571:*** MorphoSys contracted an outside laboratory, Jerini Peptide Technologies (“Jerini” or “JPT”), to conduct epitope mapping using a peptide array technique called “PepSpot.” This involved creating a series of overlapping 13-mer peptides that together spanned the sequence of CD38 protein, arraying these peptides on a cellulose membrane, and evaluating the ability of MorphoSys’s anti-CD38 antibodies to bind to each individual peptide (i.e., assorted individual 13 amino acid regions taken from CD38 sequence).

223. Jerini provided MorphoSys with advance results of this assay on August 21, 2003. Ex. 1101. On September 9, 2003, Dr. Tesar contacted Jerini disputing the identification of certain epitopes and raising questions about the appropriate signal strength threshold for calling epitope binding regions. *See* Ex. 1102 (discussing MOR03079: “Based upon the signal strength, I would also classify the peptide #77 as ‘significantly weaker.’ What is the threshold, and when does a signal become positive? Can you recognize the exact epitope using this analysis[?],” and discussing MOR03080: “why are the peptides #18, #22, #50, or #61, for example, not also mentioned as weakly reacting—they are at least a bit over the background (at least 3 to 5-fold)? What is the threshold for a positive signal here?”). Dr. Tesar further asked Jerini to submit the next report as a Word document so that MorphoSys “can enter the improvements mentioned” before sending Jerini a final version for signature. *Id.* On October 9, 2003, Jerini provided a report with new data directed to MOR03077, and as instructed, the report was unsigned in a Word document (“Jerini Report 3571”). Ex. 1010. During the ensuing weeks, MorphoSys

scientists requested several changes to Jerini Report 3571, including reclassifying some epitope calls for MOR03079 as background noise. Exs. 1003, 1003a. On October 28, 2003, MorphoSys emailed Jerini stating that “we would like to include a few more corrections (added in correction mode) in the final report” and asking Jerini to “please excuse the constant corrections from our side.” Ex. 1105; *see also* Tesar Dep. Tr. at 209:4-14. MorphoSys noted that “[d]ue to the additional insertions, the page with your signature has been bumped onto a new page—the text can probably still be tweaked so that the signature is back on the preceding page.” Ex. 1105.

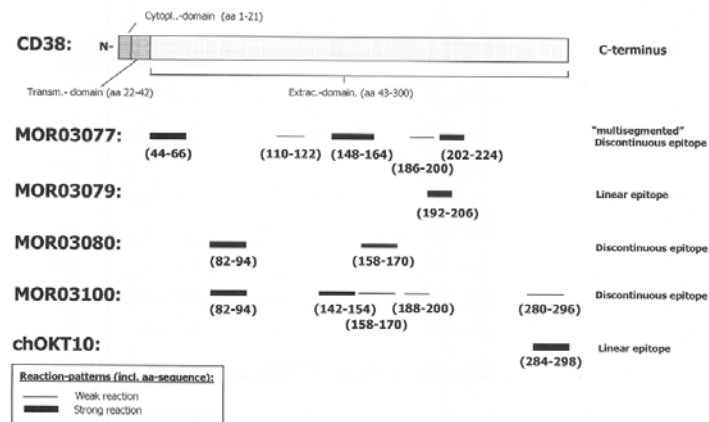
224. In its final form on October 29, 2003, as modified by MorphoSys, Jerini Report 3571 stated, *inter alia*, that MOR03080 bound to peptides corresponding to regions **82-94** and **158-170** of CD38 protein, whereas MOR03079 bound to peptides corresponding to amino acids **192-206** of CD38. *See* Ex. 1106. Jerini Report 3571 also stated that “[t]he epitopes for MOR03080 and MOR03100 can clearly be considered as discontinuous,” whereas MOR03077 “can be described as a multisegmented discontinuous epitope.” *Id.* at 5. Jerini Report 3571 also stated that “for a more precise epitope definition and determination of key amino acids (main antigen-antibody interaction sites) a shortening of peptides VSRRAEAACDVVHV and FLQCVKNPEDSSCTS and an alanine-scan of both should be envisaged.” *Id.* Neither a peptide shortening nor an alanine scan were performed in Jerini Report 3571.

225. MorphoSys submitted Figure 8 of Jerini Report 3571, complete with its epitope designations for the four MorphoSys antibodies, directly and without modification to the Patent Office, where it now appears as “Figure 7” of the Patents-in-Suit. *See also* Tesar Dep. Tr. at 232:3-233:3 (confirming that Fig. 7 is based on Jerini 3571).

226. Compare the figure as it appears in Jerini Report 3571 (Ex. 1106 Fig. 8 at 16):

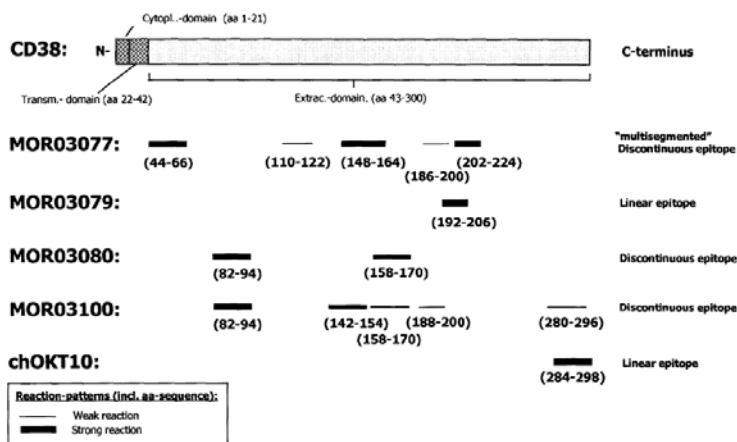


Fig.8: Schematic overview of epitopes



with Figure 7 of the Patents-in-Suit:

Fig.7: Schematic Overview of Epitopes



227. *Subsequent Jerini PepSpot Epitope Mapping: Contradictory Results for MOR03080.* In the following year, 2006, MorphoSys again contracted Jerini to conduct epitope mapping on a different set of anti-CD38 antibodies (including MOR03087, today known as “MOR202,” MorphoSys’s current clinical lead candidate). MorphoSys included MOR03080 alongside these new antibodies as a control. MorphoSys then used this follow-up testing of MOR03080 internally and without reservation to update the predicted epitopes of MOR03080, as

well as to show the epitopes for its clinical lead candidate MOR03087, but concealed it from the Patent Office.

228. *Jerini PepSpot Epitope Mapping Report #8190 (Nov. 2006)*. First, Jerini again performed its PepSpot analysis using a cellulose membrane as solid support. On or about November 30, 2006, Jerini issued a report on this testing (“Jerini Report 8190”). *See* Ex. 1057. Despite the experiment being repeated with the same antibody (MOR03080) and the same membranes and secondary antibodies, Jerini was unable to recover usable data and this experiment failed: Jerini reported that the data could not be analyzed due to excessive background noise, specifically because of interactions between the secondary detection antibody and the arrays themselves. Jerini Report 8190 ultimately stated that “[n]one of the mapping experiments yielded in [sic] detectable binding signals on the peptide array. Due to the high number of false positive signals observed in the control experiments, no reliable information could be obtained from these experiments.” *Id.* at 19. As such, from this study MorphoSys did not obtain epitope information for its ultimate clinical lead candidate (MOR03087), and also was unable to confirm the earlier MOR03080 Jerini predicted epitope (82-94 and 158-170) as reported in Figure 7 of the Patents-in-Suit.

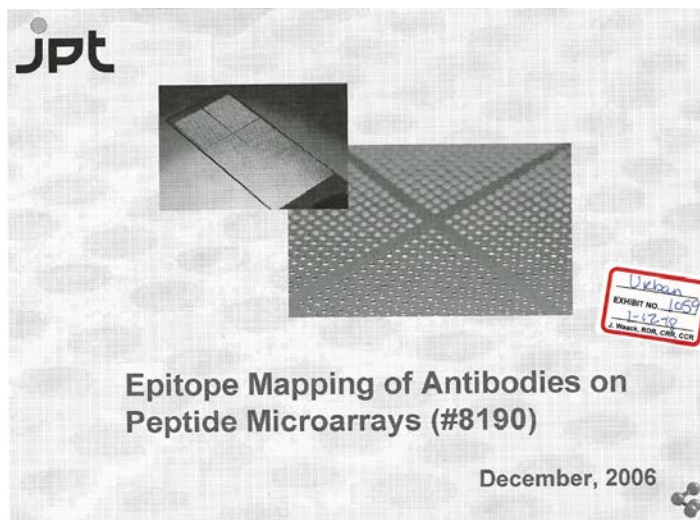
229. MorphoSys internal communications reveal that its scientists were aware of the initial Jerini Report 8190 results no later than December 1, 2006, when Thomas Ast of Jerini emailed the report as an attachment, and Dr. Tesar emailed others at MorphoSys to discuss the results and next steps, stating that “Jerini is now going to try alternatives (glass-slides, direct labelling) in order to get it to work.” Ex. 1058.

230. Dr. Tesar testified at deposition that he did not communicate this failed Jerini Report 8190 to the Patent Office because it had a “technical issue” and it was a “decision for the

patent attorneys to – to decide whether these should be sent or not.” Tesar Dep. Tr. at 267:23-269:23.

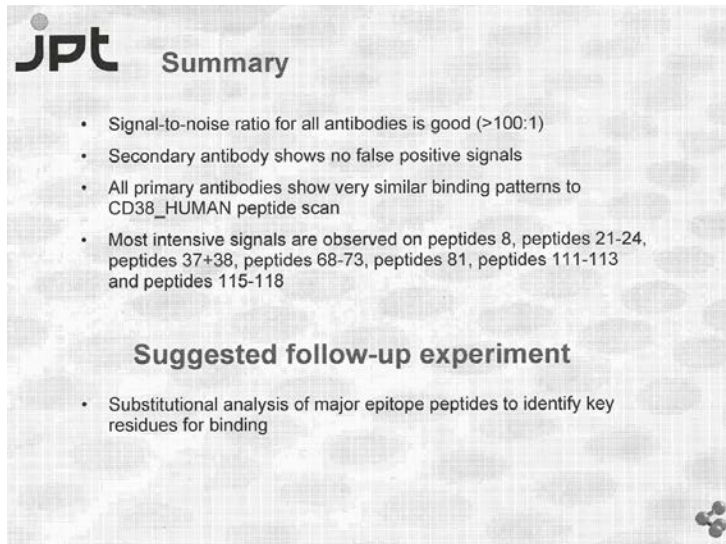
231. *Jerini Revised Epitope Mapping Report #8190 on Glass Slides (Dec. 2006).*

Shortly thereafter, MorphoSys agreed that Jerini should redo the failed epitope mapping analysis reported in Jerini Report 8190 (*see* Steidl Dep. Tr. at 251:6-16; Ex. 1173) —but this time, the experiment was to be performed on a glass surface and with three replicates (using the mean signal intensities from three identical subarrays; *see* Ex. 1059 at slide 5) as well as additional controls (*see id.* at slide 4). This glass-slide technique is another peptide array assay technique that Jerini offers, very similar to PepSpot. Again, MOR03080 was included, as was MOR03087.



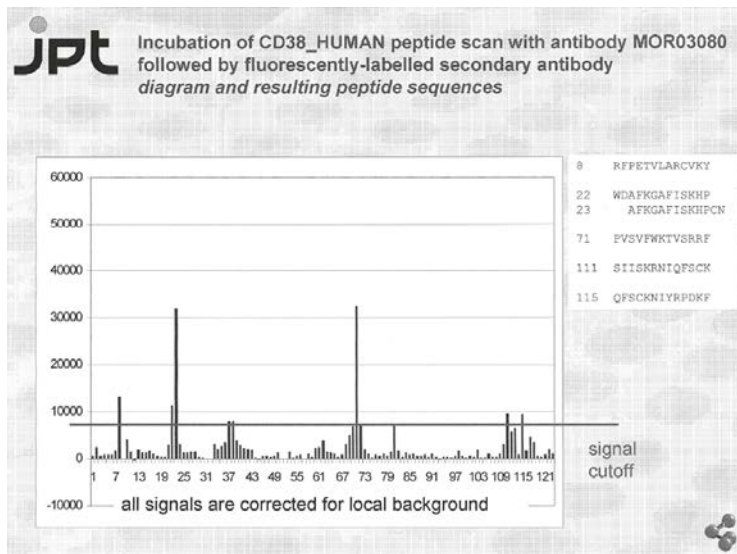
Ex. 1059 at slide 1.

232. On December 1, 2006, Jerini provided the new results in a presentation (“Jerini Replitope Report”), reporting that “[s]ignal to noise ratio for all antibodies is good (>100:1),” and that the “[s]econdary antibody shows no false positive signals”—i.e., that the problems that plagued the initial, failed Jerini Report 8190 had been corrected. Ex. 1059.



Id. at slide 21.

233. This Jerini Replitope Report, which was performed in triplicate on an array technology that Jerini still offers today, reported for MOR03080 that peptides 8, 22-23, 37-38, 71, 111, and 115 were above the “signal cutoff,” which corresponds to an epitope prediction of amino acid positions **58-70, 86-100, 116-130, 184-196, 264-284** of CD38.

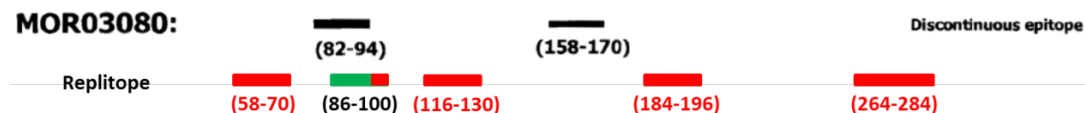


Ex. 1059 at slide 9.

234. The Jerini Replitope Report also reported the epitope for MOR03087 as peptides 8, 22-24, 37-38, 68-73, 81, 111-112, and 115, which corresponds to amino acid positions **58-70, 86-102, 116-130, 178-200, 204-216, 264-284** of CD38. *Id.* at slide 11.

235. This result—which was performed in triplicate by Jerini with “good” signal to noise ratio (>100:1) and no secondary antibody false positives—was declared by Jerini to be “evaluable” (*see* Steidl Dep. Tr. at 251:17-252:1; Ex. 1173) and reveals not only the epitope for MOR03087 (the clinical lead), but also that MOR03080 binds to a completely different epitope than initially believed, directly contradicting the results in the earlier Jerini Report 3571, as well as in Figure 7 of the Patents-in-Suit.

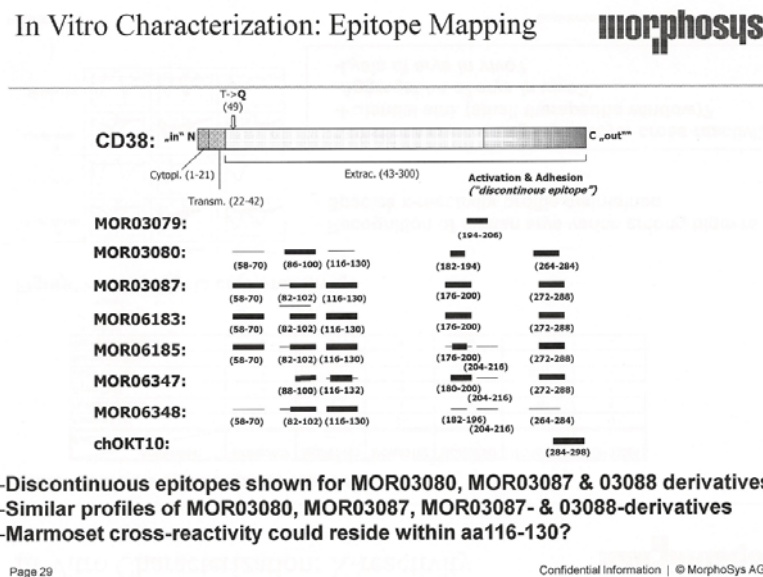
236. Below is a comparison of the MOR03080 data from Figure 7 with the Jerini Replitope Report data for MOR03080 (shown in color). The disclosed Figure 7 epitope for MOR03080, based on Jerini Report 3571, covers 26 total amino acids (positions **82-94** and **158-170** of CD38). The MOR03080 epitope as reported in the later Jerini Replitope Report is *three times longer*, covering 77 amino acids, only eight of which (10%) overlap (shown in green below). The remaining 90% of the MOR03080 epitope as reported by the Jerini Replitope Report (69 non-overlapping amino acids) is shown in red below, and directly contradicts the Figure 7 data in the Patents-in-Suit. As can be seen below, these later (withheld) results were effectively the opposite of the original results, which formed the basis for MorphoSys’s patents:



237. MorphoSys was well aware of this discrepancy. After receiving the Jerini Replitope Report, Dr. Tesar produced a draft slide deck incorporating both sets of MOR03080 results on different slides. *See* MSYS_00079373. Dr. Tesar also incorporated the new Replitope

findings in early 2007 into a PowerPoint presentation that was provided to senior management and presented to the entire scientific staff, without qualification or caveat. Within MorphoSys, the new Jerini Replitope Report results for MOR03080 simply replaced the earlier results (as submitted in Figure 7)—these earlier results are not included anywhere in, for example, this 2007 presentation. In other words, these later “Replitope” results were treated as the correct, updated data, which superseded the prior results reported in the patent application. Yet, putting their interest in patent issuance above their duty of candor to the Patent Office, neither Dr. Tesar nor anyone else at MorphoSys ever informed the Patent Office or updated Figure 7 during the following years of prosecution.

238. Below is a slide from Dr. Tesar’s 2007 presentation, prepared approximately two months after he received the Jerini Replitope Report, which clearly incorporates and presents the new epitope results for MOR03080:



Ex. 1123 at slide 29.

239. Despite attempts during deposition by MorphoSys witnesses to downplay the reliability of the Jerini Replitope Report, contemporaneous communications and presentations

demonstrate that MorphoSys in fact deemed the revised epitope results to be reliable. For example, as detailed more fully below, MorphoSys relied on the Jerini Replitope Report when reporting epitope data of its MOR03087 clinical lead (*see, e.g.*, MSYS_00064221 at slide 26), including when comparing MOR03087 to its Sanofi and Genmab competitors (*see, e.g.*, MSYS_00064221 at slide 84). And in May 2013, third-party collaborator Celgene asked for “a summary of the results of the MOR3080 epitope mapping.” MSYS_00575470. MorphoSys patent attorney Paul Wiegel responded, stating “[p]lease find attached the summary of the MOR3080 epitope mapping,” and attached only the Jerini Replitope Report, in its entirety:

Sender: Paul Wiegel </O=MORPHOSYS_GMBH/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=PAULW>
Sent: Wednesday, May 29, 2013 11:05:45 AM
Recipient: Carla Kuhner <ckuhner@celgene.com>
Cc: Konstantin Petropoulos <Konstantin.Petropoulos@morphosys.com>; Ariel Jasie <ajasie@celgene.com>
Subject: RE: MOR3080 epitope MAP
Attachments: Antibody_Profiling_Tesar-8190_final.pdf

Dear Carla

Thanks for your patience. Please find attached the summary of the MOR3080 epitope mapping. Please let me know if you would like to discuss.

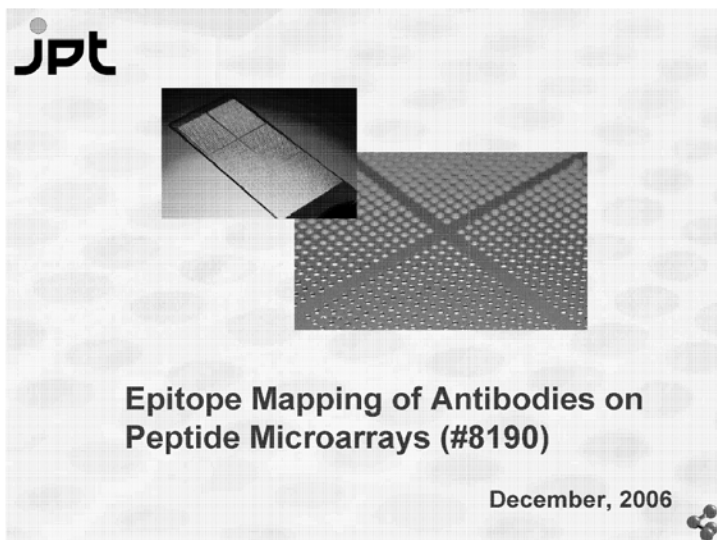
Kind regards,

Paul

Paul F. Wiegel, J.D., LL.M.
Associate Director, Intellectual Property
U.S. Patent Attorney

MorphoSys AG
Lena-Christ-Str. 48
D-82152 Planegg-Martinsried

MSYS_00575470.



MSYS_00575472.

240. In sum, the results of the Jerini Replitope Report contradict the MOR03080 epitope results shown in the earlier Jerini Report 3571 and patent Figure 7. These later results, by the same vendor and testing the same antibody, completely undermine MorphoSys's claim to an antibody that binds to at least positions 82-94 and 158-170 of CD38. *See* '746 Patent asserted claim 15 ("specifically binds within amino acids 44-66, **82-94**, 142-154, 148- 164, **158-170**, or 192-206 of CD38"); '746 Patent claim 19 ("specifically binds within amino acids **82-94 or 158-170** of CD38"); '746 Patent claim 20 ("specifically binds within amino acids **82-94 or 158-170** of CD38"); '061 Patent claim 3 ("binds an epitope of CD38 that contains one or more amino acid residues within **82-94 and 158-170**"); and '061 Patent claims 5 through 15 (multiple dependent on claim 3). The Jerini Replitope Results also undermine all other Figure 7 results as well, and all epitope claims that depend on Figure 7.

241. In spite of this, only the results of Jerini Report #3571 were ever communicated to the Patent Office.

Further Concealed Evidence of the Unreliability of the Figure 7 Epitopes

242. Well before the Jerini Replitope Report arrived in December 2006, MorphoSys already had ample reason to know that its Figure 7 epitope results were unreliable.

243. *Shortcomings of Jerini PepSpot Analysis and Discontinuous Epitopes:* MorphoSys and Dr. Tesar knew that peptide array techniques (such as the PepSpot assay of Jerini Report 3571, underlying Figure 7) were particularly unreliable when faced with discontinuous epitopes—which Figure 7 plainly states that three of the four disclosed antibodies possess. (Jerini Report 3571 states that "[t]he epitopes for MOR03080 and MOR03100 can

clearly be considered as discontinuous,” while MOR03077 “can be described as a multisegmented discontinuous epitope.” Ex. 1106 at 5.)

244. In July 2003, Dr. Tesar expressed doubts that a peptide array approach would generate usable data for the four MorphoSys anti-CD38 antibodies at all (“we have to expect that none of the antibodies will react with the overlapping peptides”), because the antibodies had conformational epitopes:

On a whole, we would gladly characterize 4 antibodies - but we have to expect that none of the antibodies will react with the overlapping peptides because there is a

conformational epitope (according to Jerini only 50% chance of capturing it with this “linear” technique...). It is my opinion that we should actually connect a western blot assay in advance so that we

Ex. 1051; *see also* Tesar Dep. Tr. at 163:7-13 (discussing Jerini as “overlapping peptides”).

245. Dr. Tesar also stated in an August 18, 2011 email to Dr. Stefan Steidl, then Director of Pharmacology at MorphoSys, that “[d]iscontinuing epitopes are certainly much more difficult to determine than linear ones.” Ex. 1173.

246. Yet when shown his 2003 statement at deposition, Dr. Tesar testified “My God. How did I come to that judgment? I don’t get the rationale behind this sentence anymore. I’m missing details, so I don’t know how I came up to this conclusion.” Tesar Dep. Tr. at 165:19-166:7.

247. At deposition, Dr. Steidl agreed that for “some” antibodies, “one of the drawbacks of this type of experiment is that it’s less reliable with respect to discontinuous epitopes than it is for linear epitopes.” Steidl Dep. Tr. at 174:24-175:14.

248. ***Other Approaches to Identify Epitopes:*** Apart from the Jerini peptide array mapping studies, MorphoSys also undertook a variety of other experimental approaches to

identify the epitopes of the four antibodies disclosed in the Patents-in-Suit—none of which gave results consistent with Figure 7, and none of which were reported to the Patent Office.

249. *Fc ELISA Mapping:* In September 2002, MorphoSys conducted ELISA assays with Fc-fusion proteins bearing various regions of CD38 protein. At deposition, Dr. Tesar testified that “ELISA is one way of looking at epitopes. There are many others out [sic], but it’s a good start, as I said, to look at ELISA.” Tesar Dep. Tr. at 93:6-16.

250. Using the ELISA technique, MorphoSys discovered and reported in its presentations that every one of its anti-human CD38 antibody Fabs—including the four ultimately disclosed in the Patents-in-Suit—recognized “exclusively epitope **aa 273-300**” in the prior art C-terminal region of CD38. Ex. 1050 at 12.

251. On July 15, 2003, Dr. Tesar stated that, with the help of different EST-constructs (covering regions 45-213; 45-273 and 45-300 of CD38), he had “already establish[ed]” that MorphoSys’s four anti-CD38 antibodies react exclusively with the full-length construct 45-300. Ex. 1051. Dr. Tesar confirmed this was a strong indication that, like the prior art anti-CD38 antibodies, the epitope of MorphoSys’s four anti-CD38 antibodies lie only in the C-terminal range:

If necessary, we can limit ourselves to the amino acids 200-300 because all of the previously mapped out epitopes of published anti-CD38 antibodies fall in this range. With the help of different EST-constructs (aa 45-213; 45-273 and aa 45-300) we were able to already establish that our antibodies react exclusively with the construct aa 45-300, - this is a strong indication (but unfortunately not certain!) that the epitope of our own CD38 antibody also lie only in this C-terminal range. Maybe we will still get a clue about the epitope from our collaboration with Prof. Malavasi (he is currently conducting competition studies with the already mapped antibodies and our 4 candidates) ... otherwise, I would recommend getting started with the complete length (aa45-300).

252. At deposition, Dr. Tesar confirmed this conclusion in his 2003 email, stating that the antibodies “were all binding in the C terminal range” and that “[t]his conclusion is correct.” Tesar Dep. Tr. at 168:14-169:2.

253. These Fc ELISA results directly conflict with Jerini Report 3571 and Figure 7 of the Patents-in-Suit, and were not reported to the Patent Office during prosecution of the '746 Patent.

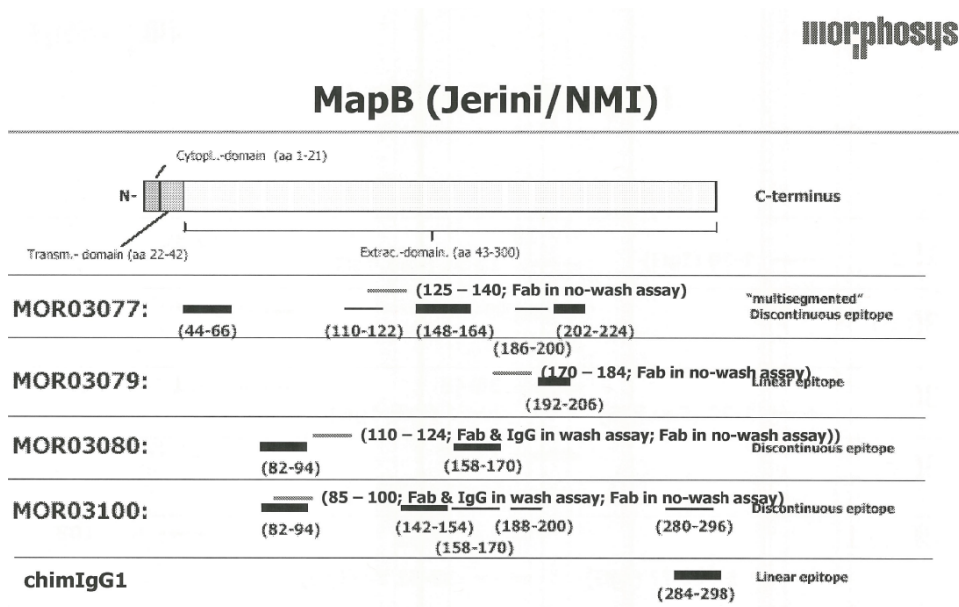
254. ***Dr. Malavasi's Competitive Binding:*** In or around September 2003, MorphoSys employees, including Drs. Tesar and Steidl, enlisted Dr. Fabio Malavasi of the University of Torino to perform competition assays with the four antibodies disclosed in the Patents-in-Suit. *See* Ex. 1052. In these studies, multiple antibodies compete to bind a given antigen; when antibodies compete with one another for binding, this can mean that they share the same epitope. *See* Urban Dep. Tr. at 282:9-18. Dr. Tesar testified that Dr. Malavasi was "an expert" in the CD38 field. Tesar Dep. Tr. at 72:1-17.

255. These experiments revealed that all four MorphoSys antibodies competed with one another; that MOR03080 and prior-art chOKT10 competed with one another 70%; and that MOR03079 competed 100% with several known prior art antibodies, including IB4, IB6, HB7, AT13/5, and AT2. *See* Ex. 1052. At deposition, Dr. Tesar testified that the 70% competition between MOR03080 and OKT10 might merit including another epitope call for MOR03080: "So it says, '70 percent.' We have to go really back in the reports to see whether it makes sense or not to – to add another bar." Tesar Dep. Tr. at 222:11-14. Not least in terms of competition between MOR03080 and OKT10, these results directly conflict with Jerini Report 3571 and Figure 7 of the Patents-in-Suit, and were never reported to the Patent Office.

256. ***NMI "MapART" Peptide Array Mapping Results:*** In January 2004, MorphoSys engaged the Natural and Medical Sciences Institute at the University of Tuebingen ("NMI") to perform epitope mapping tests to determine the epitopes of the four disclosed antibodies in the Patents-in-Suit (MOR03077, MOR03079, MOR03080, and MOR03100) using NMI's peptide

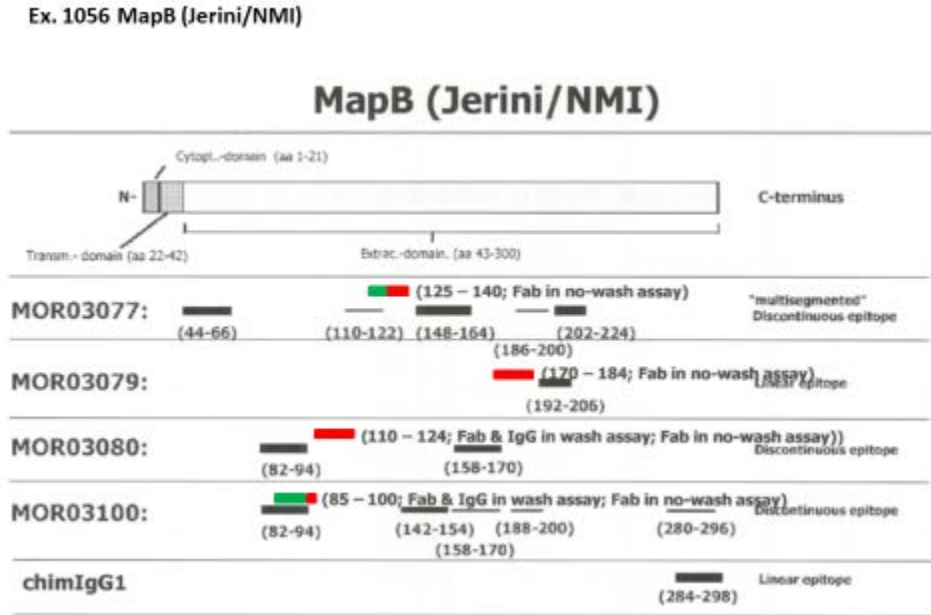
array technique, called MapART. These NMI peptide array results were reported in a MorphoSys figure titled “MapB (Jerini/NMI)” which overlaid the Jerini Report 3571 peptide array results reported in the patents at Figure 7 with the NMI peptide array results. Ex. 1056.

257. The results were contradictory. For example, NMI reported MOR03079 binding to aa 170-184, which directly contradicted its predicted epitope of 192-206 in Jerini Report 3571 and Figure 7; and NMI also reported MOR03080 binding to aa 110-124, as opposed to its Jerini 3571 Report / Figure 7 epitope of positions 82-94 and 158-170, as shown in the MorphoSys figure below:



Ex. 1056.

258. The same MorphoSys figure is reproduced below with the contradictory NMI MapB epitope results highlighted in color (green for overlapping, red for contradictory):



Ex. 1056 (color highlights added to show NMI data).

259. These NMI MapART results directly conflict with Jerini Report 3571 and Figure 7 of the Patents-in-Suit, as confirmed by Dr. Ralf Ostendorp, Head of Protein Sciences at MorphoSys, at deposition: “So as I said, the two lines marked with peptide mapping Jerini and peptide mapping NMI do not represent any overlaps of the marked regions.” Ostendorp Dep. Tr. at 317:1-13 (discussing MOR03077). MorphoSys also withheld these results from the Patent Office.

260. **NMI EST Epitope Mapping Results:** In June 2005, MorphoSys engaged NMI to employ another approach for epitope mapping of the four disclosed antibodies in the Patents-in-Suit, namely assaying their binding to expressed sequence tags (“ESTs”) of various portions of the CD38 amino acid sequence. On June 22, 2005, NMI generated a report of this EST-based epitope mapping experiment. See Ex. 1055. NMI reported “strong and significant interactions” for eight of 13 antibodies tested. Based on its interaction with two particular ESTs, the “minimal epitope region” for MOR03080 was reported to be amino acids 164-300 of CD38; no interaction

with ESTs covering the 82-94 region was found. Dr. Ostendorp confirmed this finding at deposition, stating that “the table and the report states that the deduced minimal region for MOR03080 would be amino acids **164-300**.” Ostendorp Dep. Tr. at 288:23-289:17.

261. The NMI EST report explicitly compares its results to Jerini Report 3571 (the basis for Figure 7), stating that “[t]he results of epitope mapping on peptide level by Jerini AG and EST mapping approach by NMI are rather contradictory.”

5.6. Comparison with data from commercial contractor

Tables S2 (Supplementary data) is the attempt to summarise all of the NMI data for antigen B (EST mappings and peptide mappings) and to compare them with the data that were generated by Jerini AG, Berlin. However, this table has to be taken with caution since interpretation of data is not always clear without ambiguity.

Five antibodies (IgG molecules) had been analysed with epitope mappings by Jerini AG: MOR03077, MOR03079, MOR03080, MOR03100, and chimOKT10. The results of epitope mapping on peptide level by Jerini AG and EST mapping approach by NMI are rather contradictory.

Ex. 1055 at 30.

262. A supplementary table in the NMI report explicitly compares the results of the Jerini 3571 Report peptide mapping (patent Figure 7) with NMI EST mapping and NMI MapART peptide mapping. The predicted epitope results for antibody MOR03080 differ between all three approaches.

No.	Name	NMI EST mapping Wash and no-wash assays	NMI EST mapping Capture assays	NMI MapART MapB Peptide mapping	Jerini AG Peptide mapping
ab 1	MOR03077	no significant signal	no significant signal	no significant signal	not tested
ab 2	MOR03079	no significant signal	no significant signal	no significant signal	not tested
ab 3	MOR03080	139-300, 164-300	no significant signal	108-122 (1 peptide)	not tested
ab 4	MOR03100	139-300, 164-300, 232-282, (247-300)	139-300, 164-300, 232-282, (247-300)	84-98 (1 peptide)	not tested
ab 5	MOR03077	no significant signal	no significant signal	116-138, 176-198, 260-290 (3-5 peptides consensus each)	multisegmented discont: 44-68, 148-164, 202-224
ab 6	MOR03079	no significant signal	high background with all ESTs	high background with all peptides	linear: 194-204 (3 peptides consensus)
ab 7	MOR03080	139-300, 164-300	no significant signal	108-122 (1 peptide)	discont: 82-94, 158-170 (1 peptide each)
ab 8	MOR03100	139-300, 164-300, 232-282, (247-300)	139-300, 164-300, 232-282	several disperse signals	discont: 82-94, 142-154, 280-292 (pep each) (weak: 158-170, 176-186, 188-200 pep each)
ab 9	chimigG1	139-300, 164-300, (247-300)	no significant signal	several disperse signals	linear: 264-296 (2 peptides consensus)
ab 10	OKT10	no significant signal	no significant signal	not tested	not tested
ab 11	IB4	139-300, 164-300	139-300, 164-300	not tested	not tested
ab 12	HB7	139-300, 164-300	139-300, 164-300	not tested	not tested
ab 13	T16	139-300, 164-300	139-300, 164-300	not tested	not tested

Table S2: Comparison of results from NMI EST mapping and peptide mapping with results from Jerini AG. Numbers indicate amino acid positions. Weak and/or uncertain interactions are printed in parentheses. Note that ab10, ab11, ab12, and ab13 were not tested in peptide mappings so far, since they were provided recently. **Important note:** Not all of the peptide interactions that were detected by Jerini AG are shown in this table, only the strongest interactions (selection by NMI) were taken.

Ex. 1055 at 34 (highlighting added to show MOR03080 results).

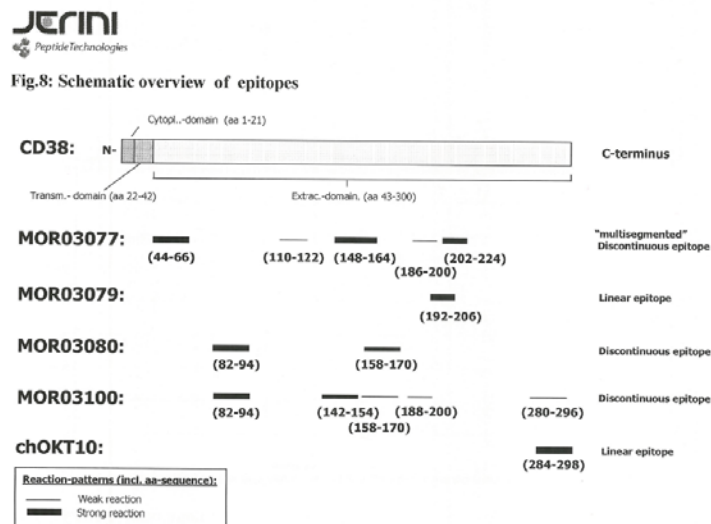
263. MorphoSys also withheld these results from the Patent Office.

264. In sum, even before the Jerini Replitope Report revealed contradictory epitope mapping data for MOR03080, MorphoSys already possessed ample epitope mapping data that directly conflicted with Jerini Report 3571 and Figure 7 of the Patents-in-Suit—neither this data, nor the Jerini Replitope Report, was ever submitted to the Patent Office, and no attempt was made to update Figure 7 to reflect these discrepancies. This despite the fact that Figure 7 was the **sole support** for the epitope binding claims in the asserted MorphoSys patents.

Materiality of Contradictory Epitope Data

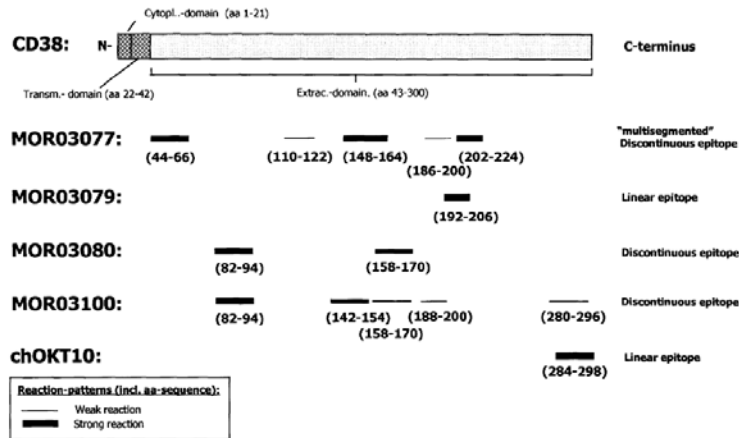
265. Dr. Tesar testified at deposition that the reason he was interested in knowing the epitopes for MorphoSys anti-CD38 antibodies was for patent applications. *See* Tesar Dep. Tr. at 147:16-148:5.

266. Figure 7 is an exact duplicate of a diagram in the Jerini 3571 Report. Compare the figure as it appears in Jerini Report 3571 (Ex. 1106 Fig. 8 at 16):



with Figure 7 of the Patents-in-Suit:

Fig.7: Schematic Overview of Epitopes



267. In submitting this figure to the Patent Office and during the many years of active prosecution that ensued, no modifications whatsoever were made to Figure 7 to account for the later, contradictory Jerini Replitope Report—which reported MOR03080 binding to a completely different epitope, shown in color below:



268. Similarly, no modifications were made to Figure 7 to account for any of the other contradictory results in MorphoSys's possession, including NMI MapART peptide array results, NMI EST results, Fc fusion ELISA results, or Prof. Malavasi's competitive binding experiments.

269. During prosecution of the '746 Patent, MorphoSys relied exclusively on Figure 7 and its results—taken entirely from the initial Jerini 3571 Report, and never revised in light of the later, contradictory Jerini Replitope results—as the sole written description support for its claimed epitope ranges. This repeated reliance and assertion of Fig. 7 as exemplary of the claimed epitopes constitutes not merely a withholding of material information but material misrepresentation, without which the examiner would not have allowed the claims of the '746 Patent.

270. For example, on October 18, 2011—nearly five years after receiving the contradictory Jerini Replitope Report—MorphoSys submitted new '746 claims 142-148, directed to, *e.g.*, “[a]n isolated antibody or antibody fragment thereof containing an antigen-binding region... which specifically binds within amino acids **82-94** or **158-170** of CD38” (i.e., the original, unrevised epitope for MOR03080, directly contradicted by the Jerini Replitope Report). In its accompanying applicant remarks, MorphoSys directed the Examiner as follows: “Support for these claims can be found, for example, at Figure 7 and ¶¶ 0136-0138 of the published specification.” '746 Patent file history, Oct. 18, 2011 Response to Non-Final Rejection at 8. The paragraphs of the published specification (¶¶ 0136-0138) to which MorphoSys directed the Examiner repeat only those same Figure 7 results. Also in October 2011, Mr. Wiegel attended a telephonic interview during which the Examiner and MorphoSys’s representatives discussed epitopes for, *e.g.*, then-pending claim 101 (directed to epitopes comprising 44-66, **82-94**, 142-154, 148-164, **158-170**, or 192-206 of CD38) and compared these with prior art epitopes. *See* '746 Patent file history, Oct. 14, 2011 Applicant Initiated Interview Summary at 2.

271. During prosecution of the '061 Patent, MorphoSys continued to tie claims explicitly to the epitopes identified in Figure 7, particularly MOR03080, and to misrepresent Figure 7 as exemplifying the claims. For example, Mr. Wiegel signed and submitted an Amendment on June 17, 2015, again presenting claims based entirely and exclusively on the purported MOR03080 epitope shown in Figure 7 (*see, e.g.*, then-pending claim 30, directed to binding “an epitope of CD38 that contains one or more amino acid residues within **82-94** and **158-170**” of CD38). *See* '061 Patent file history, June 17, 2015 Response to Final Rejection at 2. In this Amendment, Mr. Wiegel stated that “the Examiner acknowledged that the specification provides support for the epitopes recited in claims 28-31.” *Id.* at 5.

272. Likewise during prosecution of the '590 Patent, MorphoSys again sought claims directed to the MOR03080 epitope regions 82-94 and 158-170. First, Mr. Wiegel signed and submitted a Dec. 4, 2015 preliminary amendment, in which MorphoSys sought claim 85 (including residues **82-94** and **158-170** of CD38), claim 109 (directed to an antibody “that binds to a CD38 peptide consisting of amino acid residues **82-94** of CD38”), and claim 110 (directed to an antibody that “binds to a CD38 peptide consisting of amino acid residues **158-170** of CD38), all of which are based on the Figure 7 epitope for MOR03080. *See* '590 Patent file history, Dec. 4, 2015 Preliminary Amendment. Next, in a Feb. 4, 2016 amendment again signed and submitted by Mr. Wiegel, MorphoSys sought claim 115 (including residues **82-94** and **158-170** of CD38), claim 140 (directed to an antibody “that binds to a CD38 peptide of amino acid residues **82-94** of CD38”), and claim 141 (directed to an antibody that “binds to a CD38 peptide of amino acid residues **158-170** of CD38). *See* '590 Patent file history, Feb. 4, 2016 Preliminary Amendment. MorphoSys and Mr. Wiegel again pointed the Examiner to “Figure 7 and paragraph [0146]” of the specification as support for its claims to antibodies binding to “CQSVWDAFKGAFI” and “TWCGEFNTSKINY” (positions **82-94** and **158-170** of CD38, which correspond to the epitope shown in Figure 7 for MOR03080). *See* '590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 15. Alleging that Figure 7 supported the claims despite knowledge of contradictory results that undermine the accuracy of the entire figure amounts to a material misrepresentation.

273. Thus, although the '590 Patent as issued does not include claims drawn specifically to the MOR03080 epitope ranges 82-94 and 158-170, such claims were twice sought during prosecution—and for these, MorphoSys directed the examiner to the same Figure 7 data for support. *See* '590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 15.

274. Moreover, the results MorphoSys withheld from the Patent Office not only directly contradict the MOR03080 epitope in Figure 7, but also demonstrate the unreliability of Figure 7 generally, and thus are material to the '590 Patent's issued claims as well. To prepare Figure 7, Jerini tested all four antibodies (MOR03077, MOR03079, MOR03080, and MOR03100) in the same experiment and under the same conditions, with their data collected and interpreted in the same way. (MOR03077 initially failed to provide usable signal, and had to be re-assessed using direct labeling of secondary antibody.) The Jerini Replitope Report laid bare the shortcomings of this initial Figure 7 approach: Jerini later re-tested MOR03080 and reported wholly contradictory epitope results. This later Jerini Replitope study was performed with "good" signal to noise ratio (>100:1) and no secondary antibody false positives, on an array platform Jerini still offers today. Unlike the Figure 7 study, the later Jerini Replitope study was done in triplicate. It was declared by Jerini to be "evaluable" (*see* Steidl Dep. Tr. at 251:17-252; Ex. 1173), by a "state of the art" company (*see* Tesar Dep. Tr. at 166:17-167:14 ("Jerini is state of the art to map epitopes")) and its results—both for MOR03080 and for MOR03087, MorphoSys's ultimate clinical lead candidate—were used without reservation or caveat in company presentations circulated to senior management, shared with third-party collaborator Celgene, and included in other third-party presentations as accurate and authoritative.

275. Of the four antibodies disclosed in the Patents-in-Suit, only MOR03080 was later shown by Jerini to possess a different epitope—but MOR03080 was the only one of those four antibodies that Jerini actually tested again. By exposing shortcomings in the original data for the only antibody that was re-tested, the Jerini Replitope Report also calls into question Figure 7 epitope results for antibodies MOR03077, MOR03079, and MOR03100.

276. Because the withheld data undermines Figure 7 altogether, and the claims of the '590 Patent draw their (alleged and misrepresented) support from Figure 7, the '590 Patent is unenforceable for inequitable conduct committed during prosecution of the '590 Patent and related applications. Furthermore, this inequitable conduct persisted and was not cured in any of the Patents-in-Suit. There are three requirements that a patentee must meet to cure inequitable conduct in a patent. The first requirement to be met by an applicant, aware of misrepresentation in the prosecution of his application and desiring to overcome it, is that he expressly advise the Patent Office of its existence, stating specifically wherein it resides. The second requirement is that, if the misrepresentation is of one or more facts, the Patent Office be advised what the actual facts are, the applicant making it clear that further examination in light thereof may be required if any Patent Office action has been based on the misrepresentation. Finally, on the basis of the new and factually accurate record, the applicant must establish patentability of the claimed subject matter. As detailed below, MorphoSys did none of these.

277. MorphoSys did nothing to cure the deficiencies of Figure 7 during prosecution of any Patent-in-Suit, including the '590 Patent which issued in fall 2017. Rather, it continued its pattern of withholding information and materially misrepresenting Figure 7 as an accurate representation of exemplified antibody epitopes. As discussed above, Jerini's initial inability to reproduce MOR03080's epitope results, and later reporting of reliable and entirely contradictory data for this antibody, thoroughly undermines the Figure 7 data for all antibodies —not just MOR03080. Although MorphoSys knew that the Jerini Replitope Report contradicted Figure 7 and undercut its validity, it nonetheless failed to advise the Patent Office of the Jerini Replitope Report, its possession of other data contradicting its prior representation, or the unreliable epitope maps in Figure 7. MorphoSys never informed the Patent Office of any issue raised by

the Jerini Replitope Report, let alone made the Patent Office aware that further examination might be required in light of it. MorphoSys thus did not establish patentability of the claims on a factually accurate record. MorphoSys withheld and misrepresented material information not just during prosecution of the '746 and '061 Patents but in the '590 Patent as well; its inequitable conduct was not remedied and infected all Patents-in-Suit.

278. Even in this litigation, MorphoSys's own legal arguments emphasize the materiality of Figure 7. In its claim construction briefing, MorphoSys argued that the term "specifically binds within" of the '746 Patent should be broadly construed and not limited to binding *only* within the amino acid regions identified in the claims. Again, the data MorphoSys withheld from the Patent Office not only directly contradicts the Figure 7 epitope for MOR03080, but also demonstrates the utter unreliability of Figure 7 generally and thus calls into question the epitope results for antibodies MOR03077, MOR03079, and MOR03100 as well. Yet MorphoSys relied on that very Figure 7 epitope mapping data to argue that because antibodies such as MOR03077 and MOR03100 bind both within the claimed region of 44-206 and also outside that region (i.e., at 207-224 for MOR03077 and 280-298 for MOR03100), MorphoSys was entitled to a broad construction of this claim term—without ever mentioning that the data for Figure 7 was unreliable or that it had in its possession data flatly contradicting the purported epitope of MOR03080. *See* D.I. 82, Dec. 27, 2016 Opening Brief ISO MorphoSys Claim Constructions of '746 Patent, at 14.

279. The Figure 7 results are the sole written description support for the MorphoSys epitope claims. Without it, there is no basis for the Patent Office to have issued these claims, particularly claims based directly on the alleged binding site of MOR03080. In sum, the Patent Office would not have allowed claims directed to the epitopes shown in Figure 7 had MorphoSys

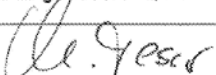
actually made the Examiner aware of the Jerini Replitope Report or other contradictory results and admitted that Figure 7 did not actually exemplify the epitope of MOR03080.

280. And as described below, MorphoSys realized this, and deliberately withheld contradictory information with intent to deceive the Patent Office. In addition, Morphosys repeatedly, deliberately and with intent to deceive misrepresented the contents of Figure 7, conveying that it accurately portrayed the epitopes of antibodies that Morphosys had made despite knowing that, at the very least in the case of MOR3080, it did not.

Individuals with a Duty to Disclose Material Information to the Patent Office

281. Dr. Michael Tesar was the Associate Director of Research & Development at MorphoSys from 1998 to 2012 and was project lead of the anti-CD38 antibody project. Dr. Tesar is a named inventor of the '746, '061, and '590 Patents. Dr. Tesar signed an oath in connection with his inventorship, acknowledging his “duty to disclose to the Patent Office all information known ... to be material to patentability as defined in 37 CFR 1.56.”

I (we) hereby state that I (we) have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above. I (we) acknowledge the duty to disclose to the Patent Office all information known by me to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information known by me which became available between the filing date of the prior application and the national or Patent Cooperation Treaty (PCT) or international filing date of the continuation-in-part application.

First Inventor:	<input type="checkbox"/> A petition has been filed for this unsigned inventor		
Name:	Michael TESAR		
Citizenship:	Germany		
Mailing Address:	Karolingerstrasse 26, 82362 Weilheim, Germany		
Inventor's Signature:		Date	July 30, 2009

'746 Patent file history, oath.

282. Dr. Tesar made clear that he *knew* he had a responsibility to report any potentially-reliable data to the Patent Office by testifying under oath that he did not communicate Jerini Report 8190 to the Patent Office because it had a “technical issue” and it was a “decision

for the patent attorneys to – to decide whether these should be sent or not.” Tesar Dep. Tr. at 267:23-269:23.

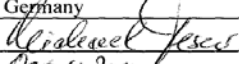
283. Dr. Tesar also testified at deposition that his “duty as a scientist was to perform these assays, and these assays and the results thereof were basically the basis for this patent.” Tesar Dep. Tr. at 226:12-15. Dr. Tesar also testified that he may have drafted the patent itself, and in any event it was his “duty as a scientist to look through the results [to confirm] if they are accurate,” and also that he “work[ed] closely together with patent attorneys” on the project. Tesar Dep. Tr. at 228:10-230:4. As an inventor and an individual associated with the filing and prosecution of the patent applications, Dr. Tesar unquestionably had a duty to disclose all information material to patentability.

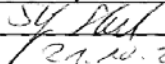
284. Dr. Stefan Steidl is now Head of Preclinical Development at MorphoSys and has worked at MorphoSys since 2001. On information and belief, Dr. Steidl was also involved in the prosecution of the ’746, ’061 and/or ’590 Patents. Dr. Steidl contributed experimental work to the Patents-in-Suit and reviewed and edited the applications. *See* Steidl Dep. Tr. at 103:13-20 (“So I contributed some of the experiments that led to that [’746] patent. And – and I do recall also proofreading or reading the document in the – in the drafting state.”) MorphoSys’s privilege log has identified communications and documents wherein Dr. Steidl was involved in emails “requesting and providing legal advice from counsel regarding patent prosecution,” “providing information for the purpose of rendering legal advice regarding patent office declarations,” “regarding drafting response to office action,” and reports “reflecting a request for legal advice from counsel regarding patent prosecution.” *See, e.g.*, privilege log entries for: Jan. 22, 2004 report authored by Steidl reflecting a request for legal advice from counsel regarding patent prosecution; Feb. 1, 2004 Email from Urban to Steidl requesting and providing legal advice from

counsel regarding patent prosecution; Feb. 19, 2004 Email from Tesar to Steidl requesting information for the purpose of obtaining legal advice regarding patent prosecution; July 3, 2012 Email from Wiegel to Steidl regarding drafting response to office action; Sept. 29, 2014 Email from Steidl to Wiegel providing information for the purpose of rendering legal advice regarding patent office action declarations.

285. Dr. Steidl also was a named inventor on the '061 Patent, and signed an oath and declaration on Nov. 22, 2011; he was removed as an inventor on Oct. 5, 2015 and replaced with Ute Jaeger in light of claim amendments. *See* '061 Patent file history, Nov. 22, 2011 Oath, and Oct. 5, 2015 Request Under Rule 48 to Correct Inventorship. In the executed Oath and Declaration, both Dr. Steidl and Dr. Tesar acknowledged "the duty to disclose to the U.S. Patent and Trademark Office all information known ... to be material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56":

THAT I acknowledge the duty to disclose to the U.S. Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

Name of first inventor	Michael TESAR
Residence	Weilheim i. Ob., Germany
Citizenship Country	Germany
Post Office Address	Karolingerstrasse 26 82362 Weilheim i. Ob. Germany
Inventor's signature	
Date	Oct. 4, 2011

Name of second inventor	Stefan STEIDL
Residence	München, Germany
Citizenship Country	Germany
Post Office Address	Planeggerstr. 37 81241 München Germany
Inventor's signature	
Date	21.10.2011

286. As such, as an individual associated with the filing and prosecution of the patent applications, Dr. Steidl unquestionably also had a duty to disclose information material to patentability.

287. Dr. Marlies Sproll was Chief Scientific Officer at MorphoSys during the relevant time period and has worked at MorphoSys since 2000. *See* Sproll Dep. Tr. at 15:24-16:1; 16:21-17:10. On information and belief, Dr. Sproll was also involved in the prosecution of the '746, '061 and/or '590 Patents. MorphoSys's privilege log has identified communications and documents wherein Dr. Sproll was involved in emails concerning "patent filings," "patent application materials," "intellectual property protection," "intellectual property evaluation." *See, e.g.,* privilege log entries for: Dec. 6, 2010 Email from Sproll to Hutter containing legal advice from counsel regarding patent application filings; Sept. 1, 2011 Email from Sproll to Hutter requesting advice regarding patent prosecution.

288. Dr. Sproll also testified during her deposition that she was in charge of supervising the Intellectual Property Department at MorphoSys when she was Chief Scientific Officer. *See* Sproll Dep. Tr. at 28:9-20 ("Q: What are your responsibilities with respect to intellectual property? . . . The witness: -- yeah. It was kind of the line manager function for the IP department."); *id.* at 28:22-29:11 ("Q. Are you involved in overseeing the filing of the patents by MorphoSys? . . . THE WITNESS: Supervising the department.") As such, as an individual associated with the filing and prosecution of the patent applications, Dr. Sproll also had a duty to disclose information material to patentability.

289. On information and belief, Paul Wiegel was a patent lawyer at MorphoSys from August 2008 through November 2016. Mr. Wiegel actively prosecuted the Patents-in-Suit. For example, he attended a telephonic interview during which the Examiner and MorphoSys's

representatives discussed epitopes for, *e.g.*, then-pending claim 101 (directed to epitopes comprising 44-66, **82-94**, 142-154, 148-164, **158-170**, or 192-206 of CD38) and compared these with prior art epitopes. *See* '746 Patent file history, Oct. 14, 2011 Applicant-Initiated Interview Summary at 2. During prosecution of the '061 Patent, Mr. Wiegel signed and submitted an Amendment on June 17, 2015, again presenting claims based entirely and exclusively on the purported MOR03080 epitope shown in Figure 7 (*see, e.g.*, then-pending claim 30, directed to binding “an epitope of CD38 that contains one or more amino acid residues within **82-94** and **158-170**” of CD38). *See* '061 Patent file history, June 17, 2015 Response after Final Rejection at 2. Likewise during prosecution of the '590 Patent, Mr. Wiegel signed and submitted a Dec. 4, 2015 preliminary amendment, in which MorphoSys sought claim 85 (including residues **82-94** and **158-170** of CD38), claim 109 (directed to an antibody “that binds to a CD38 peptide consisting of amino acid residues **82-94** of CD38”), and claim 110 (directed to an antibody that “binds to a CD38 peptide consisting of amino acid residues **158-170** of CD38), all of which are based on the Figure 7 epitope for MOR03080. *See* '590 Patent file history, Dec. 4, 2015 Preliminary Amendment. Next, in a February 4, 2016 amendment again signed and submitted by Mr. Wiegel, MorphoSys sought claim 115 (including residues **82-94** and **158-170** of CD38), claim 140 (directed to an antibody “that binds to a CD38 peptide of amino acid residues **82-94** of CD38”), and claim 141 (directed to an antibody that “binds to a CD38 peptide of amino acid residues **158-170** of CD38). *See* '590 Patent file history, Feb. 4, 2016 Preliminary Amendment. MorphoSys and Mr. Wiegel again pointed the Examiner to “Figure 7 and paragraph [0146]” of the specification as support for its claims to antibodies binding to “CQSVWDAFKGAFI” and “TWCGEFNTSKINY” (positions **82-94** and **158-170** of CD38, which correspond to the epitope shown in Figure 7 for MOR03080). *See* '590 Patent file history, Aug. 23, 2016 Response to

Non-Final Rejection at 15. Mr. Wiegel's mailing address is listed on the '746 Patent's November 2, 2015 Certificate of Correction, and the '061 Patent's March 31, 2016 Certificate of Correction; Mr. Wiegel signed and submitted the '590 Patent's December 4, 2015 Statement to Support Filing and Submission in Accordance with 37 C.F.R. §§ 1.821-1.825, as well as Information Disclosure Statements for the '590 Patent (Dec. 4, 2015).

290. Mr. Wiegel also appears frequently on MorphoSys's privilege log in this case in connection with patent prosecution activities. For example, MorphoSys's privilege log has identified communications and documents wherein Mr. Wiegel was involved in emails "regarding review of draft patent prosecution documents" and "providing legal advice from counsel regarding patent prosecution claims," as well as patent prosecution documents "regarding draft patent claims" and "regarding office action response." *See, e.g.*, privilege log entries for: Apr. 14, 2009 Email from Wiegel to Thellman, Steidl, and Leclair providing legal advice from counsel regarding patent prosecution claims; Aug. 11, 2010 Email from Wiegel to Gorgey reflecting legal advice from counsel regarding review of draft patent prosecution documents; Jan. 3, 2011 document authored by Wiegel regarding office action response; Apr. 16, 2013 patent prosecution document authored by Wiegel regarding patent prosecution; Apr. 30, 2014 patent prosecution document authored by Wiegel regarding draft patent claims.

Failure to Disclose the Contradictory Results by Individuals Having a Duty to Do So

291. Dr. Tesar was aware of the contradictory ELISA Fc-fusion epitope mapping results no later than Dec. 17, 2002, when the data was presented in an R&D meeting. *See Ex. 1050* at slide 12. On July 15, 2003, Dr. Tesar emailed colleagues a summary of this data, explaining that "we were able to already establish that our antibodies react exclusively with the construct aa 45-400," yielding a "strong indication" that the epitope lie "only in this C-terminal

range.” Ex. 1051. The application that ultimately issued as the ’746 Patent had not yet been filed at this time.

292. Drs. Tesar and Steidl were aware of the contradictory Malavasi competitive binding experiment epitope mapping results no later than Sept. 17, 2003, when the data was presented in a teleconference. *See* Ex. 1052. On November 4, 2003, the results were presented in an R&D meeting, alongside the Jerini #3571 peptide array results. *See* Ex. 1053 at slides 19-24. The application that ultimately issued as the ’746 Patent had not yet been filed at this time.

293. Dr. Tesar was aware of the contradictory NMI MapART peptide array mapping results no later than November 10, 2004, when Dr. Ostendorp emailed him an overlaid figure comparing NMI’s peptide array results with those from Jerini’s #3571 Report, including contradictory, non-overlapping epitope identifications for MOR03079 and MOR03080. *See* Ex. 1056. The non-provisional application that ultimately issued as the ’746 Patent had not yet been filed at this time.

294. Dr. Tesar was aware of the contradictory NMI EST epitope mapping results dated June 22, 2005 no later than July 15, 2005, when Dr. Ostendorp emailed them as an attachment. *See* MSYS_01711020. Dr. Ostendorp told Tesar that while the NMI and Jerini data lined up for ICAM (another antigen tested), the results for the CD38 epitope mapping were contradictory: “[T]here will be another follow-up conference call about this, because the data situation is really complex and we are still not really combining the data sets of Jerini with the peptide and EST data from NMI (by contrast, we have a very clear picture for ICAM).” Dr. Ostendorp also wrote to Tesar “[f]eel free to stop by anytime – we need to talk about patent supplements anyway.” MSYS_01711020.

295. The NMI EST report included a statement in the report that NMI and Jerini results were “rather contradictory” and a supplementary table listing differing epitope identifications for, among others, MOR03080. Ex. 1055. The application that ultimately issued as the ’746 Patent had recently been filed at this time; MorphoSys would still file new epitope-based claims relying solely on Figure 7 over seven years after this, without ever communicating the contradictory NMI EST epitope mapping results to the Patent Office.

296. Dr. Tesar was aware of the failed Jerini 8190 Report epitope mapping results no later than December 1, 2006, when Thomas Ast of Jerini emailed the report as an attachment. *See* Ex. 1172. Dr. Tesar emailed others at MorphoSys to discuss the results and next steps, stating that “Jerini is now going to try alternatives (glass-slides, direct labelling) in order to get it to work.” Ex. 1058.

297. Dr. Tesar was aware of the contradictory Jerini Replitope Report epitope mapping results no later than December 1, 2006, when Thomas Ast emailed them as an attachment. *See* Ex. 1172. This report included results performed in triplicate (unlike Jerini Report 3571), with “good” signal to noise ratio, no false positives from secondary antibodies, and included epitope results for MOR03087, as well as epitope results for MOR03080 that contradicted the earlier Jerini 3571 Report. MorphoSys was actively prosecuting the ’746 Patent application at this time; MorphoSys would file new epitope-based claims relying solely on Figure 7 nearly six years after this, without ever communicating the contradictory results of the Jerini Replitope Report to the Patent Office.

298. Dr. Steidl was aware of the contradictory Jerini Replitope Report results at the latest by 2009. In November 2009, Dr. Steidl sent an email, subject “MOR202 Offsite,” attaching a December 2008 slide presentation that reported both the MOR03080 and MOR03087

epitopes using data drawn from the Jerini Replitope Report. *See* Ex. 1073 at slide 20. And in August 2011, Dr. Tesar sent Dr. Steidl an email, subject “Epitope mappings....CD38,” (Ex. 1173) stating that “further mapping experiment using Replitope Peptide Microarray” was done, and this experiment “did not have the difficulties.” Dr. Tesar further informed Dr. Steidl in this email that there was only partial agreement between the Replitope result for MOR03080 and the epitope result from the first Jerini report.

299. Mr. Wiegel was aware of the Jerini Replitope Report at the latest by 2013. In February 2013, Mr. Wiegel sent an email, subject “MOR202 epitope,” (MSYS_01884788) attaching a slide presentation (MSYS_01884789) that reported both the MOR03080 and MOR03087 epitopes using data drawn from the Jerini Replitope Report. And on May 29, 2013, Mr. Wiegel emailed the Jerini Replitope Report itself as an attachment to third party collaborator Celgene, stating “[p]lease find attached the summary of the MOR3080 epitope mapping.” MSYS_00575470.

300. No later than January 16, 2007—a short time after MorphoSys received the Jerini Replitope Report (*see* Steidl Dep. Tr. at 248:13-19), Dr. Tesar included the revised epitope results for MOR03080 and MOR03087 in a MorphoSys presentation, including the revised epitope for MOR03080 that differed from patent Figure 7. *See* Ex. 1123 at slide 29. This presentation was sent to MorphoSys senior management, including Dr. Sproll. Ex. 1123. A management board presentation dated February 8, 2007 also contains these revised epitope results (MSYS_00267821), and on information and belief, Dr. Sproll attended this management board presentation. MorphoSys relied upon these revised epitopes for MOR03080 and MOR03087 not just in presentations to upper management but also in presentations to the public and third-parties on many occasions. For example, on May 4, 2007, Dr. Tesar provided

Dr. Sproll a poster presentation containing these revised epitopes in preparation for the 2007 American Society of Clinical Oncology conference. *See* MSYS_01184698; MSYS_01184699. Around the same time, Dr. Sproll also received a slide deck containing these revised epitopes from Dr. Bianca Ahrens, who was seeking Dr. Sproll's comments prior to presenting it at a scientific conference. *See* MSYS_01423401. When the MorphoSys team, including Dr. Sproll, needed to inform a potential collaborator about its CD38 program, a slide deck containing these revised epitopes was the used. *See* MSYS_01401756. Against this backdrop, MorphoSys was actively prosecuting the '746 Patent application at this time, and continued to file new epitope-based claims relying on and misrepresenting Figure 7 over a period of many years.

301. On information and belief, MorphoSys's IP team, and in particular Mr. Wiegel, received Dr. Tesar's 2007 PowerPoint presentation that included the Jerini Replitope Report data for MOR03080 that directly contradicted patent Figure 7. One version of this file produced by MorphoSys (MSYS_00892680) bears the custodian "IP Network," and another version (MSYS_01399771) was taken from a folder titled "Client_Document\2016-03-11 - Files from Paul Wiegel\After invention."

302. Dr. Tesar, Dr. Steidl, Dr. Sproll, and Mr. Wiegel were aware of and had knowledge of the contradictory epitope mapping data discussed in paragraphs 291-301 above, but did not submit these results to the Patent Office. Instead, the only epitope mapping results the Examiner evaluated were those on which Figure 7 is based—namely the single Jerini 3571 Report.

Intent to Deceive, and the Inequitable Conduct that Resulted in the Patents-in-Suit

303. Dr. Tesar, Dr. Steidl, Dr. Sproll, Mr. Wiegel, and other individuals associated with the filing or prosecution of the patent applications intentionally failed to disclose

contradictory epitope mapping data to the Patent Office in connection with prosecution of those patents, with intent to deceive the Patent Office.

304. MorphoSys actively prosecuted one or more Patents-in-Suit over a twelve-year period, from early 2005 through late 2017. The PCT application that issued as the '746 Patent was filed on February 7, 2005, and prosecution continued for over seven years. During prosecution, MorphoSys submitted what would ultimately issue as epitope-based antibody claims in the '746 Patent on October 18, 2011, and was actively prosecuting and amending filed claims as late as March 13, 2012. The Notice of Allowance issued on April 30, 2012, and the '746 Patent itself issued on September 11, 2012. MorphoSys filed the application that ultimately issued as the '061 Patent on November 11, 2011, and the '061 Patent issued on December 1, 2015. MorphoSys filed the application that ultimately issued as the '590 Patent on December 4, 2015, and the '590 Patent issued on Sep. 12, 2017.

305. Shortly after prosecution started on the '746 Patent, on July 22, 2005, Dr. Sproll—who in 2005 became the Chief Scientific Officer of MorphoSys and whose duties included overseeing the IP department (*see* Sproll Dep. Tr. 28:9-20; 28:22-29:11)—sent an internal email concerning the CD38 project explicitly stating the company's unwillingness to perform "further work on the epitope mapping [of] CD38", so as to "not compromise our already files [sic] patent application!!" Ex. 1124. Dr. Sproll's 2005 email evidences MorphoSys's specific intent to deceive the Patent Office—initially by making sure not to do follow up experiments that might contradict Figure 7:

Sender: Marlies Sproll </O=MORPHOSYS_GMBH/OU=MUENCHEN/CN=RECIPIENTS/CN=MARLISS>
Sent: Friday, July 22, 2005 8:50:36 AM
Recipient: Ralf Ostendorp <Ralf.Ostendorp@morphosys.com>; MOR AL's & GL's (R&D only)
<MOR_DIS_DHsGLs@morphosys.com>; Robert Friesen <Robert.Friesen@morphosys.com>
Subject: RE: Antw: mapART

Hi Ralf,
Thanks for the info and the paper.
With regard to further work on the epitope mapping CD38:
Please keep in mind that we at first have to ensure with IP that we do not compromise our already files patent application!!
This needs tight interaction with IP and I recommend to take this up with Steve, who will be back mid August (not "only" Tanja)!!
Thanx, Marlies

306. But despite Dr. Sproll's careful admonition—which she was instructed by MorphoSys's trial counsel not to testify about at deposition, citing privilege (*see* Sproll Dep. Tr. at 247:1-250:18)—MorphoSys did in fact “perform further work on the epitope mapping” of its disclosed anti-CD38 antibodies when Jerini included MOR03080 as a control antibody in a later study. When this “control” did not match its own Figure 7 epitope, Jerini investigated further; the resulting Jerini Replitope Report revealed a totally different, contradictory epitope for MOR03080.

307. In other words, just as Dr. Sproll had feared in her July 22, 2005 email, contradictory results did in fact “compromise [MorphoSys's] already file[d] patent application[.]” But the key individuals—having knowledge of these contradictory results and knowing their materiality to the pending patent applications—chose not to disclose them to the Patent Office, with the intent that the Examiner would never know about the unreliability of the Figure 7 data. These individuals concealed material information about Figure 7 even while repeatedly misrepresenting and emphasizing its importance to the Examiner and to this Court.

308. MorphoSys and the individuals having a duty to disclose, have engaged in a pattern of deliberate withholding of data from the Patent Office and misrepresentation of what results are actually exemplified in the patent specification. This is strong evidence of the specific intent to deceive the Patent Office.

309. At deposition, MorphoSys witnesses including Dr. Steidl and Dr. Tesar disparaged the reliability of the withheld reports, until confronted with contemporaneous documents supporting their reliability. The way MorphoSys's witnesses testified at their recent depositions provides further evidence of the specific intent to deceive the Patent Office.

310. *MorphoSys witnesses testified that the Jerini 3571 Report was "state of the art" and disparaged later Jerini Reports, until confronted with contemporaneous documents:* At deposition, MorphoSys witnesses, including named inventor Dr. Tesar, 30(b)(6) designee Dr. Steidl, and other scientists personally involved in the CD38 project, consistently testified that Jerini peptide array epitope mapping was "state of the art" and a "gold standard"—so much so that replicates need not even be performed. *See, e.g.,* Tesar Dep. Tr. at 185:10-20 ("Did you feel that the [Jerini 3571] experiment had been well-performed? ... THE WITNESS: Well, feel? Feel? What does feeling mean? They told us to perform this mapping based on quality standards. They certainly had established at their company, so why shouldn't we trust on these results?"); *see also* Ostendorp Dep. Tr. at 259:21-260:23 ("So we consider this [Jerini 3571] report as a final report. And the final -- how should I say it? A report on a method which is widely accepted and state of the art in the community. There's no reason to doubt the results from this experiments. And the report gives an outlook of the opportunities to characterize an epitope with more position if need be. So there's for me no reason to follow up on any activities but to take these data as facts being performed and deduced from a state-of-the-art technology"); Ostendorp Dep. Tr. at 111:22-112:18 ("Q. As the head of the protein sciences group, would you expect that that [Jerini 3571, Figure 7] work had been confirmed to be reproducible? ... THE WITNESS: In general, not necessarily. If there is no reason to doubt experimental results with a well-established technology, I would not necessarily expect to reproduce each and every

experiment”); Ostendorp Dep. Tr. at 323:10-13 (“there’s no reason to replicate results which are solid and performed with the state-of-the-art methodology.”)

311. MorphoSys’s 30(b)(6) designee Dr. Steidl repeatedly testified on behalf of the company that the contradictory results of the follow-up Jerini epitope mapping reports were unreliable. *See* Steidl Dep. Tr. at 219:19-220:10 (“This is a depiction of this second Jerini study we asked them to do for us. And in contrast to what’s stated in the report from Jerini, somebody interpreted apparently on the MorphoSys end and – this slide and – yes, that’s what we see here”); *see also id.* at 213:23-214:17 (“that Jerini report concluded—because they had technical problems with the secondary antibody, that the results that they obtained were basically not robust and therefore were non-data”); *id.* at 227:23-228:11 (“I would like to note that the report underlying this depiction in the [Ex.] 1123 document is judged to be non-reliable”); *id.* at 227:12-19 (“the report itself say[s] these data are not reliable”).

312. MorphoSys 30(b)(6) designee Dr. Steidl also disparaged later Jerini studies as “non-data”, and called the Jerini Replitope Report an unreliable “demo report.” *See* Steidl Dep. Tr. at 178:25-179:5 (testifying that, aside from the Jerini 3571 Report which underlies Figure 7, “no other epitope mapping with a PepSpot technology was done that gave reliable results”).

313. When shown the Jerini Replitope Report at deposition, Dr. Steidl first attempted to discredit it by inferring an internal comparison (“very similar binding patterns”) to the failed Jerini 8190 Report. *See* Steidl Dep. Tr. at 242:15-245:3 (“So I would think that Jerini in itself is inconsistent, because the third bullet point is saying, ‘All primary antibodies show very similar binding patterns.’ This might well be referring to the other report, but the other report in their own words was deemed to be not valid”).

314. Only when confronted with contemporaneous documents did Dr. Steidl admit that MorphoSys had in fact requested the Jerini Replitope assay. *Compare* Steidl Dep. Tr. at 237:3-17 (first testifying that Jerini “offered” to provide the Jerini Replitope Report as a “‘demo report,’ whatever that means”) *with* Steidl Dep. Tr. at 251:6-16 (confronted with document, admitting that “it wasn’t that Jerini had done this on their own; it was something that MorphoSys had agreed should be done”).

315. When confronted with Dr. Tesar’s contemporaneous email stating that the Jerini Replitope microarray experiment did not have difficulties and was declared by Jerini to be evaluable, Dr. Steidl, testifying on behalf of MorphoSys, contradicted the contemporaneous documents to argue that the Jerini Replitope Report is nonetheless unreliable. *See* Steidl Dep. Tr. at 251:17-252:24 (Tesar “used parentheses [sic, quotation marks]. And you could -- well, of course it’s interpretation. But my interpretation is that these data are not reliable. Why would he other—otherwise used parentheses? And he used also interestingly the wording that it has been declared analyzable. That’s—I think that’s what—what is your translation say? ‘Evaluable.’ ‘Declared to be evaluable.’ For me also implies that he had some doubt whether that was the case. So it’s not—it’s not his opinion. It says it was ‘declared evaluable,’ and he’s taken this for a qualitative graphic.”) This testimony stands in contrast to numerous documents in Morphosys’s internal documents, as set forth below.

316. Dr. Steidl, again testifying on behalf of MorphoSys, even went so far as to testify that no valid epitope data exists for the company’s MOR03087 (“MOR202”) clinical lead candidate—because those results, as shown in company materials, came from the same Jerini Replitope Report that Dr. Steidl now disparages:

Q. You understand that the epitope of daratumumab is different from the epitope of 3087?

A. I'm aware that there are published data on the daratumumab epitope, and as we—as MorphoSys—as I explained to you by judging the data from the PepSpot mapping is not valid, did not come to a conclusion what the actual 3087 epitope is. I can't answer the question, because I would be comparing published data with non-data.

Q. So is it—is it your position that MorphoSys doesn't know what the epitope of 3087 is?

A. We have not conducted, to the best of my knowledge, any other epitope mapping studies other than the two that we have discussed. So I do conclude we are not currently in possession of the knowledge of to say this is the 3087 epitope.

Steidl Dep. Tr. at 264:6-265:3.

317. MorphoSys witnesses were evidently prepared not to bring up the contradictory Jerini Replitope Report at all, and if it was brought up in deposition, to disparage it as “non-data.”

318. But the witnesses’ “party line” is completely undermined by contemporaneous documents, as well as deposition testimony secured after witnesses were presented with those documents, which tell a very different story.

319. ***Internal Reliance on Replitope Results:*** In a 2011 email to Dr. Steidl , Dr. Tesar described the Jerini Replitope Report as follows: “The Microarray experiment did not have the difficulties, was declared by Jerini to be evaluable, and the result was ‘qualitatively’ drawn by me in a graph.” Ex. 1173. Despite deposition testimony to the contrary, contemporaneous documents set forth below reveal that the epitope results of the Jerini Replitope Report were extensively used and relied upon by MorphoSys at the same time that the ’746 Patent application was being prosecuted, and that MorphoSys specifically discussed the contradictory epitope data mere weeks before filing the ’061 continuation in part application.

320. ***MorphoSys’s Witnesses’ Attempted Disavowal of MOR03087 Replitope Results:*** As noted earlier, at deposition Dr. Steidl testified on behalf of the company that MorphoSys does

not actually know the epitope of MOR03087, the same antibody that is the company's current clinical lead candidate (now designated as "MOR202"). Dr. Steidl boxed himself into this position by repeatedly asserting that the Jerini Replitope Report was "not valid," notwithstanding that it was also the source of MorphoSys's epitope data for MOR03087. *See* Steidl Dep. Tr. at 264:6-265:3 ("we -- as MorphoSys -- as I explained to you by judging the data from the PepSpot mapping is not valid, did not come to a conclusion what the actual 3087 epitope is").

321. Contrary to Dr. Steidl's testimony, MorphoSys has clearly relied on the results of the Jerini Replitope Report whenever it reported the epitope of MOR03087, which is its current clinical lead candidate (now designated as "MOR202").

322. When confronted at deposition with his own 2008 email, Dr. Steidl admitted that he had personally provided MOR03087 epitope information based on data from the Jerini Replitope Report, without qualification, to MorphoSys's Chief Scientific Officer. *See* Steidl Dep. Tr. at 266:6-267:18 ("it may be a comparison of the epitopes which has been in the report -- in this -- this glass slide report being mentioned").

323. And as set forth below, MorphoSys repeatedly and unequivocally relied on the MOR03080 and MOR03087 epitope data from the Jerini Replitope Report, both internally and externally.

324. ***Reliance on MOR03080 Replitope Results—Communications with Celgene:*** In May 2013, third party collaborator Celgene asked for "a summary of the results of the MOR3080 epitope mapping." MSYS_00575470. Mr. Wiegel responded, stating "[p]lease find attached the summary of the MOR3080 epitope mapping," and attached only the Jerini Replitope Report, in its entirety:

Sender: Paul Wiegel </O=MORPHOSYS_GMBH/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=PAULW>
Sent: Wednesday, May 29, 2013 11:05:45 AM
Recipient: Carla Kuhner <ckuhner@celgene.com>
Cc: Konstantin Petropoulos <Konstantin.Petropoulos@morphosys.com>; Ariel Jasie <ajasie@celgene.com>
Subject: RE: MOR3080 epitope MAP
Attachments: Antibody_Profiling_Tesar-8190_final.pdf

Dear Carla

Thanks for your patience. Please find attached the summary of the MOR3080 epitope mapping. Please let me know if you would like to discuss.

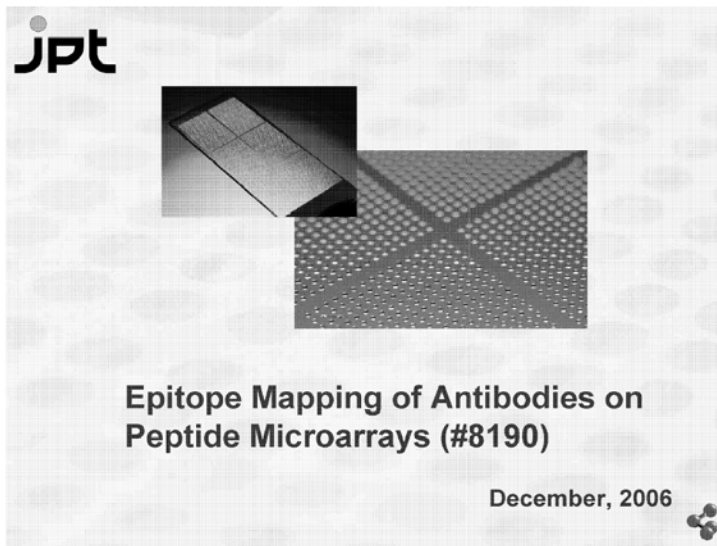
Kind regards,

Paul

Paul F. Wiegel, J.D., LL.M.
Associate Director, Intellectual Property
U.S. Patent Attorney

MorphoSys AG
Lena-Christ-Str. 48
D-82152 Planegg-Martinsried

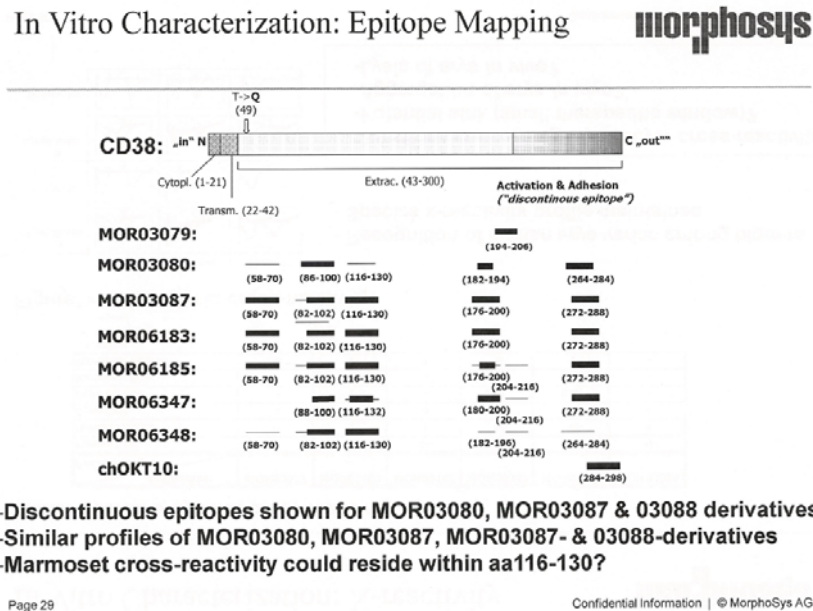
MSYS_00575470.



MSYS_00575472.

325. MorphoSys's explicit reliance on the Jerini Replitope Report—including providing third-party collaborator Celgene without qualification as a “summary of the MOR3080 epitope mapping”—belies Dr. Steidl's deposition testimony that the Jerini Replitope Report was considered unreliable, and clearly demonstrates that MorphoSys both internally and externally relied on the revised epitopes for MOR03080 in the Jerini Replitope Report without ever providing them to the Patent Office.

326. **Reliance on MOR03080 Replitope Results—2007 R&D Presentation:** A January 16, 2007 MorphoSys R&D presentation (Ex. 1123) included epitope mapping data derived from the Jerini Replitope Report. A slide therein prepared by Dr. Tesar (*see* Steidl 252-53; Ex. 1173) presented only the revised epitope results for MOR03080 (*see* Ex. 1123 at slide 29), omitting completely the earlier Figure 7 results:



327. Both 30(b)(6) designee Dr. Steidl and Chief Scientific Officer Dr. Sproll confirmed at deposition that MorphoSys graphs depicting MOR03080 epitopes were different from 2005 to 2007 (*i.e.*, before and after the Jerini Replitope Report). *See* Sproll Dep. Tr. at 239:2-240:14; *see also* Steidl Dep. Tr. at 228:12-17 ("the two depictions are different"). Yet the Patent Office received only one.

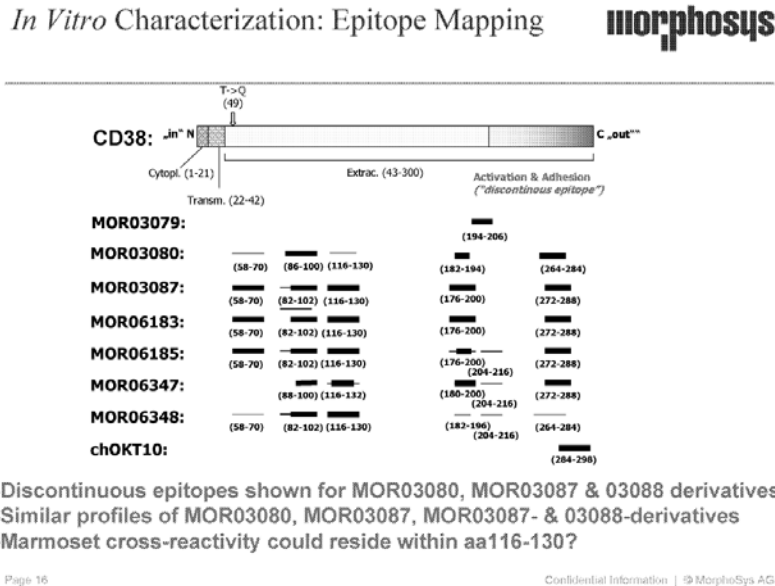
328. The 2007 R&D meeting data came from the Jerini Replitope Report. Again, the figure below compares the MOR03080 epitope reported in patent Figure 7 (top) with the Jerini Replitope Results (colored), which are also seen in the 2007 presentation:



329. This “Epitope Mapping” data was presented alongside other results, with no mention made of the data being unreliable in any way. *See* Steidl Dep. Tr. at 222:25-227:19 (Dr. Steidl unable to point to any document that stated that epitope results in the 2007 R&D Meeting presentation were not reliable).

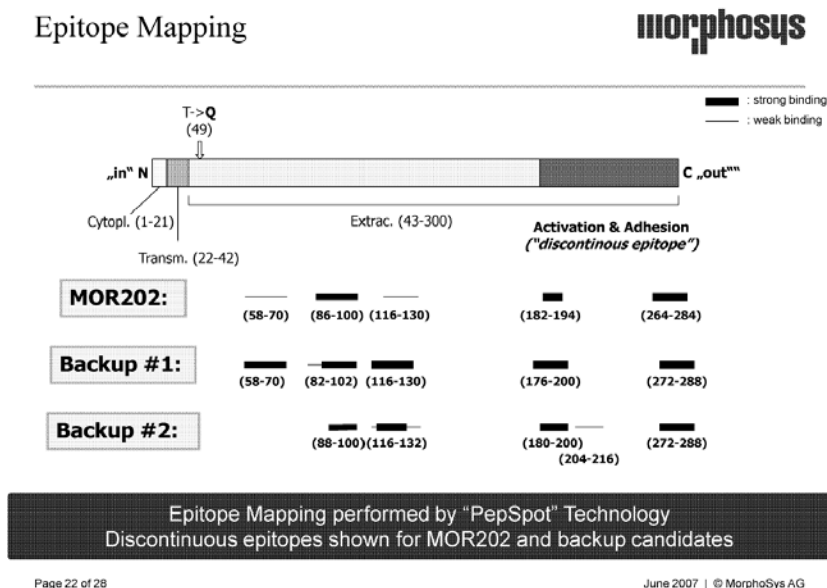
330. MorphoSys testified that this 2007 presentation (Ex. 1123) containing revised MOR03080 epitope data based on the Jerini Replitope Report was provided to top company management, including the CEO and CSO of MorphoSys. *See* Steidl Dep. Tr. at 220:18-221:16 (“In the framework of the RDM, and indeed the three Vorstand members have been CC’d”). And this was done without qualification – with no mention of the new data being unreliable or flawed in any way. Rather, it was presented as the accurate data, which MorphoSys nevertheless withheld from the Patent Office, putting issuance of their patents above truth and candor.

331. ***Reliance on MOR03080 and MOR03087 Replitope Results—2007 Vorstand Presentation:*** On information and belief, on Feb. 8, 2007, the MOR202 Project Team also presented to the board and senior executives of MorphoSys (“Vorstand”) the presentation “Development of MOR202 for Multiple Myeloma: Selection of a lead candidate for an IND-enabling development programme.” MSYS_00267821 These slides again included the same depiction of MOR03080 and MOR03087 epitopes derived from the Jerini Replitope Report:



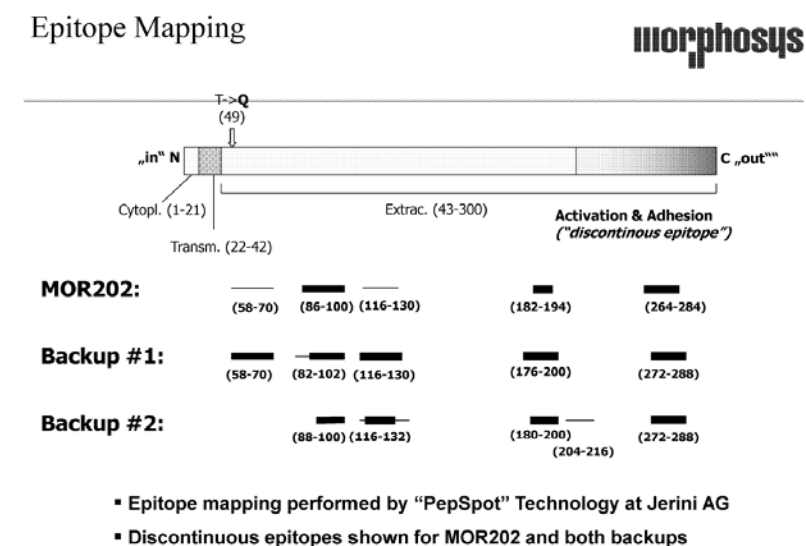
MSYS_00267821 at Slide 16.

332. ***Reliance on MOR03080 and MOR03087 Replitope Results—2007 Ahrens Conference Presentation:*** On information and belief, on June 18-20, 2007 MorphoSys employee Bianca Ahrens (Scientist, Research & Development) presented “MOR202: A Fully Human Antibody against CD38 for the Treatment of Multiple Myeloma and other Blood Borne Malignancies” at the “24th International Conference, ‘Advances in the Application of Monoclonal Antibodies in Clinical Oncology,’ Limassol, Cyprus.” The final-version slides (*see* May 25, 2007 Ahrens email, MSYS_01968789) include, without qualification or caveat, epitope data for MOR03080 (here called “MOR202,” as it was still at this time considered the lead candidate), along with MOR03087 (here called “Backup #1”) that precisely matches the Jerini Replitope Report (and contradicts Figure 7 in the Patents-in-Suit):



MSYS_01968790 at Slide 22; MSYS_01047175 at Slide 22.

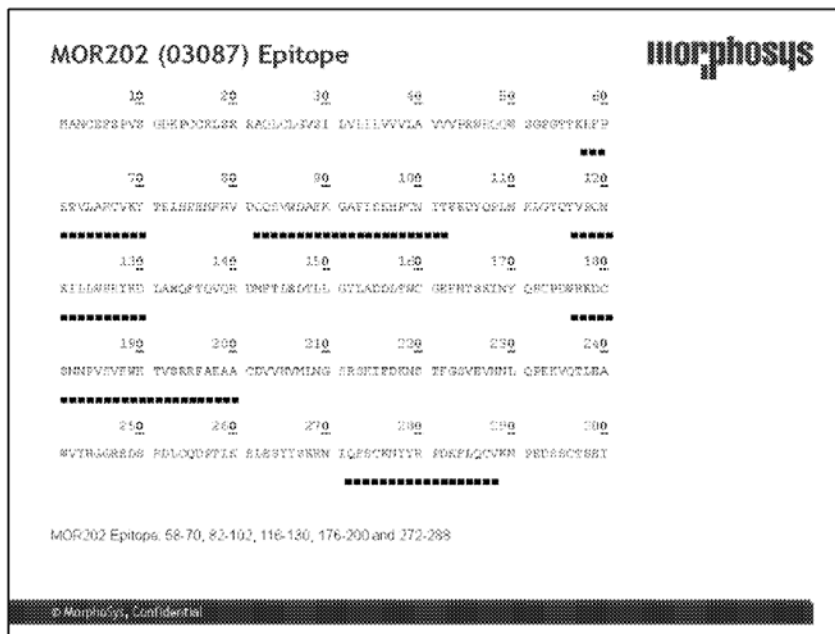
333. ***Reliance on MOR03080 and MOR03087 Replitope Results—2007 Tesar ASCO Conference Presentation:*** On information and belief, on Apr. 30, 2007, Dr. Tesar presented a series of slides at the 2007 ASCO Conference (see MSYS_00093843 and MSYS_00092990). These slides included the same depiction of MOR03080 and MOR03087 epitopes derived from the Jerini Replitope Report:



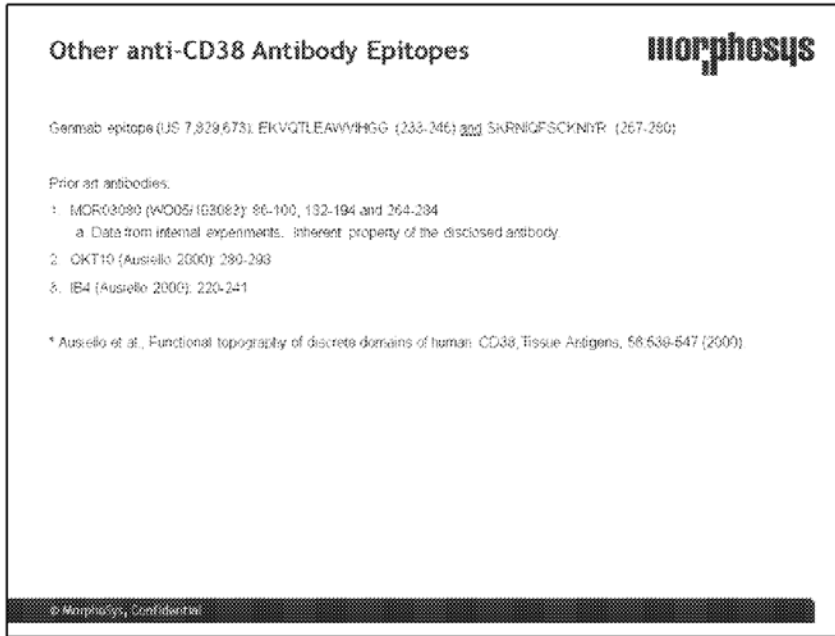
MSYS_00092991 at Slide 11.

334. Similar slides were also communicated to a Professor Keppler on Jan. 14, 2008 (see MSYS_01036829 from MorphoSys business development to Prof. Keppler, providing “further information on our MOR202 oncology program”; see also attachment MSYS_01036830 at slide 22).

335. **Reliance on MOR03080 and MOR03087 Replitope Results—Communications with [REDACTED]:** In February 2013, Mr. Wiegel wrote to [REDACTED], subject “MOR202 epitope,” (MSYS_01884788) attaching a slide presentation (MSYS_01884789) that reported both the MOR03080 and MOR03087 epitopes using data drawn from the Jerini Replitope Report:



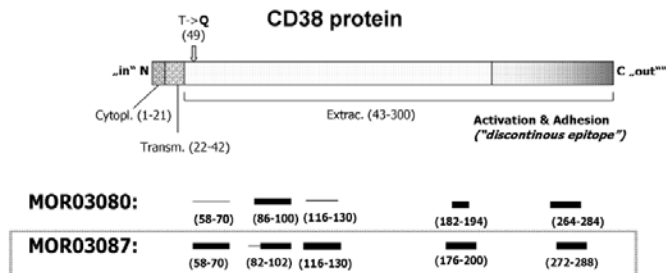
MSYS_01884789 at slide 2 (Reporting “MOR202 Epitope: 58-70, 82-102, 116-130, 176-200, and 272-288”).



MSYS_01884789 at slide 3 (Reporting “MOR03080 (WO05/103083): 86-100, 182-194, and 264-284”).

336. ***Further, Extensive Reliance on MOR03087 Replitope Results, and Epitope Comparisons of MOR03087 to Genmab’s Accused Product:*** In an 84-slide December 2008 PowerPoint presentation titled “MOR202: Characterization of MOR03087: Project Update,” MorphoSys presented “Epitope Mapping” data for both MOR03080 and MOR03087, with values exactly matching the ranges reported in the Jerini Replitope Report:

Epitope Mapping



- Discontinuous epitopes shown for MOR03087 and MOR03080
- Similar profile for MOR03087 and MOR03080

MSYS_00064221 at slide 26.

337. And in this same 2008 presentation, MorphoSys directly compared its MOR03087 clinical lead candidate to its Sanofi and Genmab competitors, including a comparison of epitopes. In a row titled “Epitope Mapping (MOR),” MorphoSys reported the MOR03087 epitope as “Peptides recognized: aa 58-70, aa 82-102, aa 116-130, aa 176-200, aa 272-288,” which again directly corresponds to the Jerini Replitope Report (and contradicts Figure 7 of the Patents-in-Suit):

Epitope Mapping (Genmab)	FACS: Competition with 003 and 005 on CHOCD38+ (no info on 024)	no comp. with 005	no comp. with 003	no info															
	Peptides recognized: SKRNQFSCKMYR (aa257-280) & EKVGTLKAWMHGG (aa233-246)	+	+	+															
	Sub-Motif: RMQF especially recognized by antibody	+																	
	Sub-Motif: IPRH & VQTL especially recognized by antibody		+																
Epitope Mapping (MOR)	Peptides recognized: aa 58-70, aa 82-102, aa 116-130, aa 176-200, aa 272-288																		

Potential lead antibodies: GenMAB-005. SA 38SB19

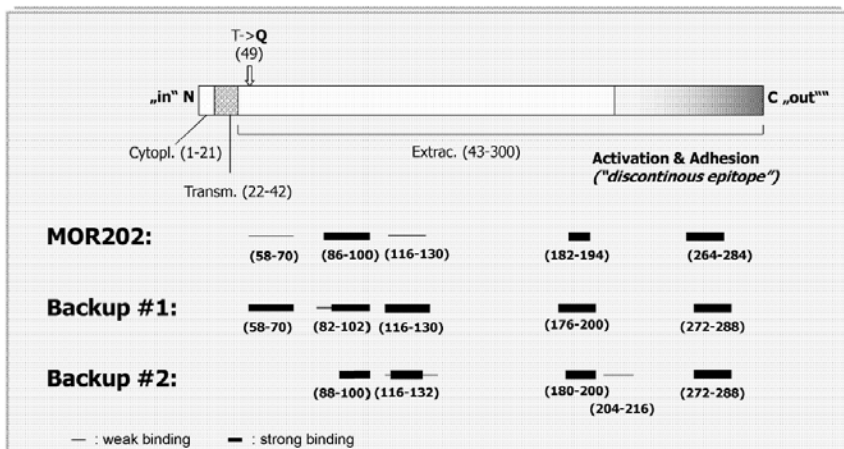
October 2008 | © MorphoSys AG

MSYS_00064221 at slide 84.

338. In another slide presentation, MorphoSys again included epitope data taken from the Jerini Replitope Report for MOR03080 (here listed as “MOR202”), as well as for MOR03087 (here still listed as “Backup #1):

Epitope Mapping

morphosys



- Epitope mapping performed by “PepSpot” Technology
- Discontinuous epitopes shown for MOR202 and both backup candidates

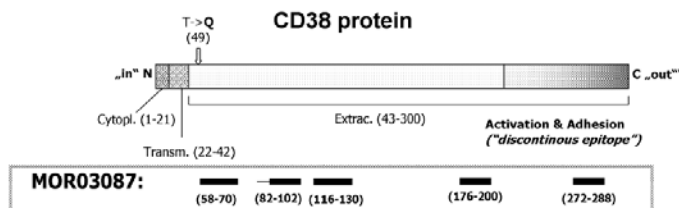
Slide 10

MSYS_00078190 at slide 10.

339. In an April 2009 presentation for a “confidential MOR pipeline presentation held... at Tracon,” which “combine[s] data already presented at a conference plus some new slides,” (see accompanying email MSYS_00012791), MorphoSys again relied on the Jerini Replitope Report data for MOR03087:

Epitope Mapping

morphosys



- Discontinuous epitope shown for MOR03087

MSYS_00012821 at slide 17.

340. *MorphoSys's Knowledge of Contradictory Data and Selective Disclosure:*

Contemporaneous documents show MorphoSys knew that its Figure 7 data was contradicted at the very least by the Jerini Replitope Report.

341. In a 2009 email, Dr. Tesar stated that “[u]nfortunately,” in doing the follow-up Jerini epitope mapping, “the old epitopes from MOR03080 could not be completely confirmed... I have also brought this up at Jerini, but they are unable to give me a reason for this.” Ex. 1111.

342. Dr. Tesar also stated that of “two epitope mappings from Jerini,” “[f]or the patent, we have taken the data from the first epitope mapping.” *Id.*

343. Dr. Tesar stated in an August 18, 2011 email to Dr. Steidl that MOR03080 had been used in the Jerini Replitope Report as a “positive control,” but that “[u]nfortunately, there was only partial agreement of the MOR03080 with the already available epitope from the very first Jerini measurement... Discontinuing epitopes are certainly much more difficult to determine than linear ones.” Ex. 1173.

344. In the same 2011 email to Dr. Steidl, Dr. Tesar stated that MorphoSys had “agreed on further mapping experiment using RepliTope Peptide Microarray”, noted that the Jerini Replitope Report was “evaluable,” and then stated “[a]s far as I know, only the results from the ‘evaluable’ report were used for the patent? Please correct me if I am wrong here.” *Id.*

345. This 2011 email was sent mere weeks before the continuation-in-part application that would eventually issue as the '061 Patent was filed, and exactly two months before MorphoSys submitted new '746 claims 142-148 to the Patent Office, directed to, *e.g.*, “[a]n isolated antibody or antibody fragment thereof containing an antigen-binding region... which specifically binds within amino acids 82-94 or 158-170 of CD38”—stating that “[s]upport for

these claims can be found, for example, at Figure 7 and ¶¶ 0136-0138 of the published specification.”

346. These exchanges reveal that at least Drs. Tesar and Steidl knew that the results of the Jerini Replitope Report were usable, reliable, and should be “used for the patent,” and also reveal that they specifically selected which results should be and were being used “for the patent”—and yet the Jerini Replitope Results never were submitted to the Patent Office.

347. Mr. Wiegel knew of and relied upon the MOR03080 epitope results from the Jerini Replitope Report, and in fact specifically communicated the Jerini Replitope Report to Celgene in May 2013. Celgene asked for “a summary of the results of the MOR3080 epitope mapping,” and Mr. Wiegel responded, “[p]lease find attached the summary of the MOR3080 epitope mapping.” Mr. Wiegel attached only the Jerini Replitope Report, in its entirety:

Sender: Paul Wiegel </O=MORPHOSYS_GMBH/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=PAULW>
Sent: Wednesday, May 29, 2013 11:05:45 AM
Recipient: Carla Kuhner <ckuhner@celgene.com>
Cc: Konstantin Petropoulos <Konstantin.Petropoulos@morphosys.com>; Ariel Jasie <ajasie@celgene.com>
Subject: RE: MOR3080 epitope MAP
Attachments: Antibody_Profiling_Tesar-8190_final.pdf

Dear Carla

Thanks for your patience. Please find attached the summary of the MOR3080 epitope mapping. Please let me know if you would like to discuss.

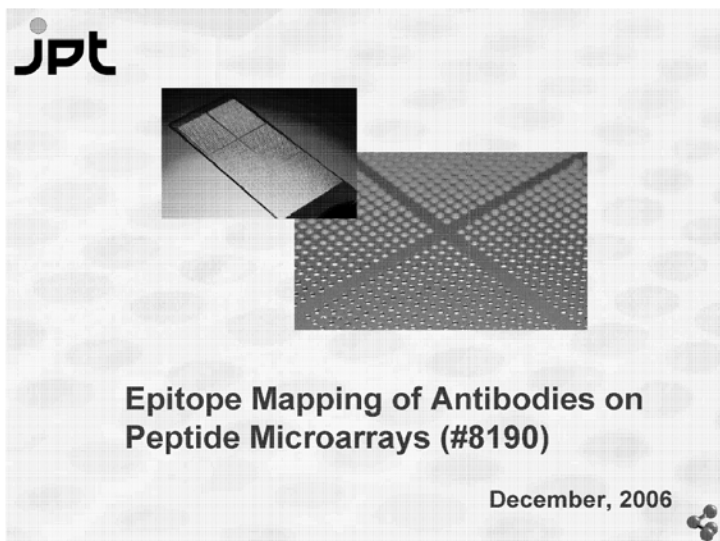
Kind regards,

Paul

Paul F. Wiegel, J.D., LL.M.
Associate Director, Intellectual Property
U.S. Patent Attorney

MorphoSys AG
Lena-Christ-Str. 48
D-82152 Planegg-Martinsried

MSYS_00575470.



MSYS_00575472.

348. Mr. Wiegel also knew of MorphoSys’s reliance on the Jerini Replitope Report for MOR03087 epitope data. *See* MSYS_01679593 (Mar. 1 2013 email to Wiegel), listing epitopes “found for MOR03087” including “58-70,” “82-102,” “116-130,” “176-200,” and “272-288”:

Paul Wiegel

From: Roy Eysten
Sent: Freitag, 1. März 2013 15:41
To: Jan Endell; Stéphane Leclair; Paul Wiegel; Daniel Weinfurter; Konstantin Petropoulos
Subject: RE: Genmabs epitope claim
Attachments: 3087_epitope_backside.png; 3087_epitope_frontside.png; 3087_epitope_backside_cartoon.png

Dear all,

here is the CD38 with epitope colored per region which was found for MOR03087. Same orientation! Also as cartoon representation.

Legend:

Color	→	region
Red	→	58-70
Orange	→	82-102
Yellow	→	116-130
Brown	→	176-200
Pink+Violet (overlap)	→	272-288

For further questions, please drop me a line or give me a call.

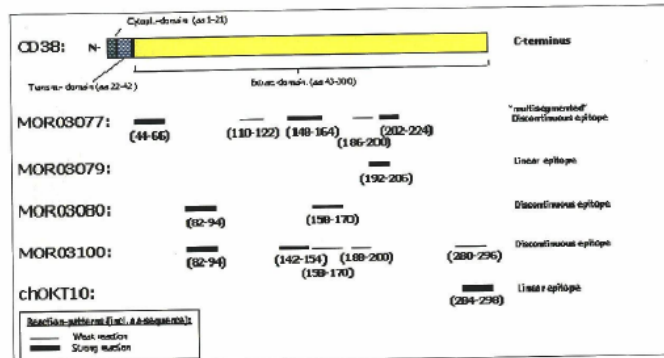
Best, Roy

MSYS_01679593.

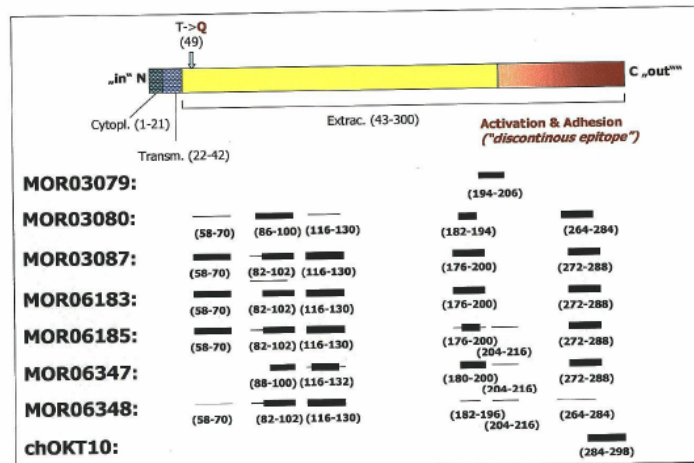
349. Moreover, Mr. Wiegel knew that MorphoSys had obtained conflicting epitope results for MOR03080, and that only the initial results had been disclosed to the Patent Office. Mr. Wiegel is listed as custodian of MSYS_00387361, which compares “[e]pitope mapping”

results, and lists Figure 7 epitope data for MOR03080, noting in the caption that this data is “From... CD38 patent,” and directly below, listing the entirely different Jerini Replitope Report epitope data for MOR03080, with the caption “fort he [sic] project transfer (3rd June 2008)”:

Epitope mapping



From CD38 final report and CD38 patent



From the summary of MOR03087 data fort he project transfer (3rd June 2008)

MSYS_00387361.

350. A copy of this same comparison figure, with the same captions noting use of the top results in the “CD38 patent,” also was sent to Dr. Tesar on Sep. 6, 2010. See MSYS_00414162, attaching MSYS_00414163.

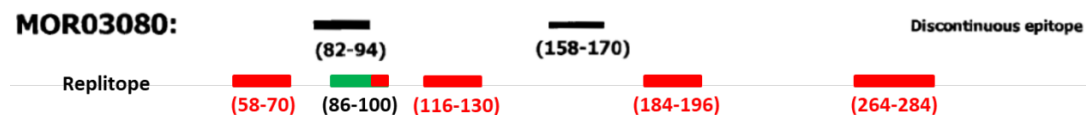
351. The **only** reasonable conclusion from this evidence is that at least Dr. Tesar, Dr. Steidl, Dr. Sproll, and Mr. Wiegel acted with specific intent to deceive the Patent Office.

They were more concerned with obtaining their patents than with their duty of candor to the Patent Office.

352. **Summary:** In support of Figure 7—the sole support for every epitope-based claim in every Patent-in-Suit—MorphoSys submitted to the Patent Office only the results from the initial Jerini 3571 Report, and did not submit the contradictory results of the Jerini Replitope Report obtained from the same “state of the art” vendor—despite MorphoSys’s own extensive reliance (without qualification) on that same data, and despite the lead inventor explicitly stating his belief that the Jerini Replitope Report results had been “used for the patent.” Ex. 1173.

353. Drs. Tesar, Steidl, and Sproll, Mr. Wiegel, and other individuals associated with the filing or prosecution of the patent applications, did not disclose to the Patent Office the Jerini Replitope Report. The Jerini Replitope Report not only directly contradicts the Figure 7 epitope for MOR03080, but also calls into question the reliability of every epitope region reported in Figure 7 of the Patents-in-Suit—the very figure upon which all epitope claims in the Patents-in-Suit are based.

354. Figure 7, with MOR03080 results corrected to show the contradictory epitope from the Jerini Replitope Report, is shown below:



355. Drs. Tesar, Steidl, and Sproll, Mr. Wiegel, and other individuals associated with the filing or prosecution of the patent applications, also did not disclose to the Patent Office other results that contradicted Figure 7, including the NMI MapART peptide mapping results, the NMI EST report, the Fc-fusion ELISA, or the Malavasi Competition Experiment results.

356. Furthermore and in particular, Dr. Steidl's changing deposition testimony regarding the reliability of the Jerini Replitope Report and his criticism of that report despite MorphoSys's own reliance on it are strong evidence of intent to deceive the Patent Office.

357. On information and belief, the instruction to withhold anti-CD38 epitope mapping information came from the highest levels of the company—for example, MorphoSys Chief Scientific Officer Dr. Sproll wrote to CD38 project scientists in 2005 that “[w]ith regard to further work on the epitope mapping [of] CD38: Please keep in mind that we at first have to ensure with IP that we do not compromise our already files [sic] patent application!!” Ex. 1124. This is strong evidence that MorphoSys was aware of its duty to report contradictory results, yet intended to “ensure” that its actions did not “compromise” the already filed patent applications.

358. The single most reasonable conclusion (and indeed the only credible conclusion) from this evidence is Dr. Tesar, Dr. Steidl, Dr. Sproll, and/or Mr. Wiegel, and potentially other individuals associated with the filing or prosecution of the patent applications, acted with specific intent to deceive the Patent Office.

First Claim for Relief
(Unenforceability of the '746 Patent)

359. MorphoSys brought an action against the Genmab Defendants for alleged infringement of the '746 Patent.

360. The '746 Patent is unenforceable due to inequitable conduct for the reasons set forth in paragraphs 202 to 358 above, incorporated herein by reference. MorphoSys's conduct renders this case exceptional under 35 U.S.C. § 285.

361. An actual and justiciable controversy exists between the parties with respect to the '746 Patent. The Genmab Defendants are entitled to a declaratory judgment that the '746 Patent is unenforceable.

Second Claim for Relief
(Unenforceability of the '061 Patent)

362. MorphoSys brought an action against the Genmab Defendants for alleged infringement of the '061 Patent.

363. The '061 Patent is unenforceable due to inequitable conduct for the reasons set forth in paragraphs 202 to 358 above, incorporated herein by reference. MorphoSys's conduct renders this case exceptional under 35 U.S.C. § 285.

364. An actual and justiciable controversy exists between the parties with respect to the '061 Patent. The Genmab Defendants are entitled to a declaratory judgment that the '061 Patent is unenforceable.

Third Claim for Relief
(Unenforceability of the '590 Patent)

365. MorphoSys brought an action against the Genmab Defendants for alleged infringement of the '590 Patent.

366. The '590 Patent is unenforceable due to inequitable conduct for the reasons set forth in paragraphs 202 to 358 above, incorporated herein by reference. MorphoSys's conduct renders this case exceptional under 35 U.S.C. § 285.

367. An actual and justiciable controversy exists between the parties with respect to the '590 Patent. The Genmab Defendants are entitled to a declaratory judgment that the '590 Patent is unenforceable.

PRAYER FOR RELIEF

WHEREFORE, the Genmab Defendants respectfully request the following relief:

(a) the entry of judgment on the Second Amended Complaint in favor of the Genmab Defendants, and against MorphoSys, with MorphoSys not being awarded any relief;

(b) the entry of judgment that the Genmab Defendants have not infringed and are not infringing any valid and enforceable claim of the '746, '061, or '590 Patents, either directly or indirectly, contributorily or by inducement, literally or under the doctrine of equivalents;

(c) the entry of judgment that each and every claim of the '746, '061, or '590 Patents is invalid;

(d) a declaratory judgment that the '746, '061, and '590 Patents are unenforceable;

(e) denial of MorphoSys's request for damages, attorney fees, costs, and expenses;

(f) a declaration that this is an "exceptional case" within the meaning of 35 U.S.C. § 285, and an award to the Genmab Defendants of their expenses, costs and attorneys' fees; and

(g) an award to the Genmab Defendants of such other and further equitable or legal relief as the Court deems just and proper.

OF COUNSEL:

Michael A. Morin
David P. Frazier
Emily K. Sauter
LATHAM & WATKINS LLP
555 Eleventh Street, NW, Suite 1000
Washington, DC 20004
(202) 637-2200

Roger J. Chin
LATHAM & WATKINS LLP
505 Montgomery Street, Suite 2000
San Francisco, CA 94111
(415) 391-0600

Michael R. Seringhaus
LATHAM & WATKINS LLP
140 Scott Drive
Menlo Park, CA 94306
(650) 328-4600

March 5, 2018

MORRIS, NICHOLS, ARSHT & TUNNELL LLP

/s/ Brian P. Egan

Jack B. Blumenfeld (#1014)
Brian P. Egan (#6227)
1201 North Market Street
P.O. Box 1347
Wilmington, DE 19899
(302) 658-9200
jblumenfeld@mnat.com
began@mnat.com

*Attorneys for Defendants Genmab US, Inc.,
and Genmab A/S*

EXHIBIT D

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

MORPHOSYS AG,

Plaintiff,

v.

JANSSEN BIOTECH, INC.,

GENMAB US, INC. and GENMAB A/S,

Defendants.

C.A. No. 16-221 (LPS) (CJB)

**CONTAINS CONFIDENTIAL
INFORMATION – FILED UNDER
SEAL**

**DEFENDANTS GENMAB US, INC. AND GENMAB A/S’S AMENDED
ANSWER TO SECOND AMENDED COMPLAINT AND COUNTERCLAIMS**

Defendants Genmab US, Inc., and Genmab A/S (collectively, “the Genmab Defendants”) submit this Amended Answer to the Second Amended Complaint filed by Plaintiff MorphoSys AG (“MorphoSys”) on October 11, 2017 (D.I. 205, the “Second Amended Complaint”). To the extent not specifically admitted in the following paragraphs, the allegations in the Second Amended Complaint are denied.

PARTIES¹

1. The Genmab Defendants are without information or knowledge sufficient to form a belief as to the truth of the allegations in paragraph 1 of the Second Amended Complaint, and therefore deny them.

¹ Solely for convenience and clarity, the Genmab Defendants have repeated herein the headings used by MorphoSys in the Second Amended Complaint. Although the Genmab Defendants need not respond to headings, the Genmab Defendants nonetheless deny the contents of the headings to the extent they can be construed to contain substantive allegations.

2. The Genmab Defendants are without knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 2 of the Second Amended Complaint, and therefore deny them.

3. Upon information and belief, the Genmab Defendants admit the allegations in paragraph 3 of the Second Amended Complaint.

4. The Genmab Defendants admit that Defendant Genmab A/S is a biotechnology company founded in Denmark with its principal place of business at Bredgade 34E, 1260 Copenhagen K, Denmark.

5. The Genmab Defendants admit that Genmab US, Inc. is a subsidiary of Genmab A/S and is a corporation organized and existing under the laws of the state of Delaware.

NATURE OF THE ACTION

6. The Genmab Defendants admit that MorphoSys purports to assert infringement of United States Patent Nos. 8,263,746 (the “746 Patent”), 9,200,061 (the “061 Patent”), and 9,758,590 (the “590 Patent”) under the Patent Laws of the United States, 35 U.S.C. §§ 1 *et seq.* Upon information and belief, the Genmab Defendants admit that Darzalex[®] is the registered trade name for daratumumab, and that the current United States Food and Drug Administration (FDA)-approved label for Darzalex[®] indicates that the active ingredient in Darzalex[®] is daratumumab, a CD38-directed cytolytic antibody, indicated for use in combination with lenalidomide and dexamethasone, or bortezomib and dexamethasone, for the treatment of patients with multiple myeloma who have received at least one prior therapy, in combination with pomalidomide and dexamethasone, for the treatment of patients with multiple myeloma who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor (PI), or as monotherapy for the treatment of patients with multiple myeloma who have received at least three prior lines of therapy including a proteasome inhibitor (PI) and an

immunomodulatory agent or who are double-refractory to a PI and an immunomodulatory agent. The Genmab Defendants deny that MorphoSys is entitled to any relief and deny the remaining allegations in paragraph 6 of the Second Amended Complaint.

JURISDICTION AND VENUE

7. The Genmab Defendants admit that MorphoSys purports to assert that this Court has jurisdiction over the subject matter of the claims pursuant to 28 U.S.C. §§ 1331 and 1338(a), as alleged in paragraph 7 of the Second Amended Complaint, and admit, solely for the purpose of this action, that the Genmab Defendants do not contest the existence of subject matter jurisdiction over the Counts I–XII of the Second Amended Complaint to the extent those counts are directed to the Genmab Defendants.

8. This paragraph is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 8 of the Second Amended Complaint.

9. This paragraph is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 9 of the Second Amended Complaint.

10. Genmab A/S denies that this Court has personal jurisdiction over Genmab A/S with respect to Counts I–XII of the Second Amended Complaint to the extent those counts are directed to Genmab A/S. Genmab US, Inc., admits that this Court has personal jurisdiction over Genmab US, Inc. with respect to Counts I–XII of the Second Amended Complaint to the extent those counts are directed to Genmab US, Inc. The Genmab Defendants also admit that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refer to the license agreement for its full and complete

contents. The Genmab Defendants deny the remaining allegations in paragraph 10 of the Second Amended Complaint.

11. The Genmab Defendants admit that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants deny the remaining allegations in paragraph 11 of the Second Amended Complaint.

12. The Genmab Defendants admit that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants admit that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the Investigational New Drug Application (IND) and provided input on Janssen's Biologics License Application (BLA) seeking FDA approval for daratumumab. The Genmab Defendants admit, upon information and belief, that Janssen is the sole owner and sponsor of the BLA for daratumumab, that Janssen has the exclusive right to market and sell Darzalex[®] (daratumumab) in the United States, and that the Genmab Defendants do not make, use, sell, or offer for sale Darzalex[®] (daratumumab) in the United States, or import Darzalex[®] (daratumumab) into the United States. The Genmab Defendants admit that their employees have attended conferences in the United States. The Genmab Defendants admit that inventions by Genmab A/S scientists have been granted U.S. Patent No. 7,829,673, assigned to Genmab A/S, and that the '673 Patent discloses and claims daratumumab. The Genmab Defendants admit that Genmab A/S registered the HuMax[®] trademark for "Chemicals used in industry and science, namely, monoclonal antibodies for in vivo or in vitro scientific research and development regarding cancer," and "Pharmaceutical preparations based on human monoclonal antibodies for

the treatment of cancer.” The Genmab Defendants admit that Genmab A/S has used the HuMax[®] trademark in connection with several antibody products that they created, including those unrelated to daratumumab. The Genmab Defendants deny the remaining allegations in paragraph 12 of the Second Amended Complaint.

13. The Genmab Defendants admit that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants also admit that Dr. van de Winkel made statements regarding Darzalex[®] subsequent to that agreement. The Genmab Defendants admit that Genmab A/S’s 2015 Annual Report, cited in paragraph 13 of the Second Amended Complaint, includes the statement: “Together with Janssen, we continue to work on the further development of daratumumab, both within the multiple myeloma space as well as in other cancer indications,” in a section of the Report discussing clinical studies and regulatory applications. The Genmab Defendants deny the remaining allegations in paragraph 13 of the Second Amended Complaint.

14. The Genmab Defendants admit that certain employees of Genmab A/S or its foreign affiliates were involved in the initiation of the preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen’s BLA seeking FDA approval for daratumumab, and have taken credit for their participation. The Genmab Defendants deny the remaining allegations in paragraph 14 of the Second Amended Complaint.

15. The Genmab Defendants admit that Genmab US, Inc. is a corporation formed and existing under the laws of the state of Delaware, and that Genmab, Inc. merged with Genmab US, Inc. in 2013.

16. The Genmab Defendants admit that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants deny the remaining allegations in paragraph 16 of the Second Amended Complaint.

17. Genmab US, Inc. does not dispute venue in this district for the purpose of this action. Genmab A/S denies the allegation in paragraph 17 of the Second Amended Complaint.

FACTUAL BACKGROUND

18. The Genmab Defendants admit that the '746 Patent is entitled "Anti-CD38 Human Antibodies and Uses Thereof" and that September 11, 2012, is identified on the face of the '746 Patent as its date of issuance. The Genmab Defendants admit that Exhibit A purports to be a true and correct copy of the '746 Patent. The Genmab Defendants deny the remaining allegations in paragraph 18 of the Second Amended Complaint.

19. The Genmab Defendants admit that the '061 Patent is entitled "Generation and Profiling of Fully Human HuCAL Gold[®]-Derived Therapeutic Antibodies Specific for Human CD3[8]," as corrected by the Certificate of Correction dated May 10, 2016. The Genmab Defendants admit that December 1, 2015, is identified on the face of the '061 Patent as its date of issuance. The Genmab Defendants admit that Exhibit B purports to be a true and correct copy of the '061 Patent. The Genmab Defendants deny the remaining allegations in paragraph 19 of the Second Amended Complaint.

20. Genmab Defendants admit that the ~~'059'~~590 Patent is entitled "Anti-CD38 Human Antibodies and Uses Thereof," and that September 12, 2017, is identified on the face of the ~~'059'~~590 Patent as its date of issuance. Genmab Defendants admit that Exhibit C purports to be a true and correct copy of the ~~'059'~~590 Patent. The Genmab Defendants deny the remaining allegations of paragraph 20 of the Second Amended Complaint.

21. The Genmab Defendants admit that “MorphoSys AG” is listed as the assignee on the face of the ’746 Patent and refer to the patent for its full and complete contents. The Genmab Defendants lack knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 21 of the Second Amended Complaint and therefore deny them.

22. The Genmab Defendants admit that “MorphoSys AG” is listed as the assignee on the face of the ’061 Patent and refer to the patent for its full and complete contents. The Genmab Defendants lack knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 22 of the Second Amended Complaint and therefore deny them.

23. Genmab Defendants admit that “Morpho Sys AG” is listed as the assignee on the face of the ’590 Patent and refers to the patent for its full and complete contents. Genmab Defendants lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 23 of the Second Amended Complaint and therefore denies them.

24. The Genmab Defendants admit that the ’746 Patent is entitled “Anti-CD38 Human Antibodies and Uses Thereof” and refer to the patent for its full and complete contents. The Genmab Defendants admit that the ’061 Patent is entitled “Generation and Profiling of Fully Human HuCAL Gold[®]-Derived Therapeutic Antibodies Specific for Human CD3[8],” as corrected by the Certificate of Correction dated May 10, 2016, and refer to the patent for its full and complete contents. Genmab Defendants admit that the ’590 Patent is entitled “Anti-CD38 Human Antibodies and Uses Thereof,” and refers to the patent for its full and complete contents. The Genmab Defendants admit that CD38 is a surface protein that is expressed by multiple

myeloma cells. The Genmab Defendants lack knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 24 of the Second Amended Complaint and therefore deny them.

25. Upon information and belief, the Genmab Defendants admit that multiple myeloma is a common blood cancer that afflicts many people in the United States resulting in many deaths. The Genmab Defendants deny the remaining allegations in paragraph 25 of the Second Amended Complaint.

26. The Genmab Defendants admit that certain employees of Genmab A/S or its foreign affiliates invented daratumumab. The Genmab Defendants admit that certain employees of Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab. The Genmab Defendants deny the remaining allegations in paragraph 26 of the Second Amended Complaint.

27. Upon information and belief, the Genmab Defendants admit that the current FDA-approved label for Darzalex[®] indicates that daratumumab is a CD38-directed cytolytic antibody indicated for use "in combination with lenalidomide and dexamethasone, or bortezomib and dexamethasone, for the treatment of patients with multiple myeloma who have received at least one prior therapy"; "in combination with pomalidomide and dexamethasone, for the treatment of patients with multiple myeloma who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor (PI)"; or "as monotherapy for the treatment of patients with multiple myeloma who have received at least three prior lines of therapy including a proteasome inhibitor (PI) and an immunomodulatory agent or who are double-refractory to a PI

and an immunomodulatory agent.” The Genmab Defendants deny the remaining allegations in paragraph 27 of the Second Amended Complaint.

28. Upon information and belief, the Genmab Defendants admit that the current FDA-approved label for Darzalex[®] states that daratumumab is a CD38-directed cytolytic antibody indicated for use “in combination with lenalidomide and dexamethasone, or bortezomib and dexamethasone, for the treatment of patients with multiple myeloma who have received at least one prior therapy”; “in combination with pomalidomide and dexamethasone, for the treatment of patients with multiple myeloma who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor (PI)”; or “as monotherapy, for the treatment of patients with multiple myeloma who have received at least three prior lines of therapy including a proteasome inhibitor (PI) and an immunomodulatory agent or who are double-refractory to a PI and an immunomodulatory agent.” Upon information and belief, the Genmab Defendants admit Darzalex[®] is administered to patients. The Genmab Defendants deny the remaining allegations in paragraph 28 of the Second Amended Complaint.

29. The Genmab Defendants admit that Genmab A/S granted Janssen a worldwide exclusive license for the development, manufacture, and commercialization of daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants deny the remaining allegations in paragraph 29 of the Second Amended Complaint.

30. The Genmab Defendants admit that Genmab A/S granted Janssen a worldwide exclusive license for the development, manufacture, and commercialization of daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants admit that pursuant to the license agreement, Genmab A/S received from Janssen a \$55 million payment as an upfront license fee and a \$45 million payment associated with the first

commercial sale by Janssen in the United States, and certain milestone payments. The Genmab Defendants also admit that Johnson & Johnson Development Corporation invested DKK 475 million, which corresponded to approximately \$80 million, in Genmab A/S shares. The Genmab Defendants deny the remaining allegations in paragraph 30 of the Second Amended Complaint.

31. Upon information and belief, the Genmab Defendants admit that the FDA granted fast track and breakthrough therapy approval to Janssen for Darzalex[®] (daratumumab) on November 16, 2015. The Genmab Defendants admit, upon information and belief, that Janssen is the sole owner and sponsor of the BLA for daratumumab, that Janssen has the exclusive right to market and sell Darzalex[®] (daratumumab) in the United States, and that the Genmab Defendants do not make, use, sell, or offer for sale Darzalex[®] (daratumumab) in the United States, or import Darzalex[®] (daratumumab) into the United States. The Genmab Defendants deny the remaining allegations in paragraph 31 of the Second Amended Complaint.

32. The Genmab Defendants admit that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants admit that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab. The Genmab Defendants admit, upon information and belief, that Janssen is the sole owner and sponsor of the BLA for daratumumab, that Janssen has the exclusive right to market and sell Darzalex[®] (daratumumab) in the United States, and that the Genmab Defendants do not make, use, sell, or offer for sale Darzalex[®] (daratumumab) in the United States, or import Darzalex[®] (daratumumab) into the United States. The Genmab Defendants deny the remaining allegations in paragraph 32 of the Second Amended Complaint.

33. The Genmab Defendants admit that Genmab A/S provided Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refer to the license agreement for its full and complete contents. Upon information and belief, the Genmab Defendants admit that Janssen obtained FDA fast track and breakthrough therapy approval to market Darzalex[®] (daratumumab) in November 2015; admits that as the sole owner and sponsor of the BLA for daratumumab, Janssen has had exclusive rights to market and sell Darzalex[®] (daratumumab) in the United States since then; and admits that the Genmab Defendants do not make, use, sell, or offer for sale Darzalex[®] (daratumumab) in the United States, or import Darzalex[®] (daratumumab) into the United States. The Genmab Defendants admit that Genmab A/S has issued media releases reporting the progress of clinical studies relating to daratumumab, and admits that these media releases are primarily targeted to investors and potential investors of Genmab A/S as part of the company's disclosure obligations under applicable law. The Genmab Defendants deny the remaining allegations in paragraph 33 of the Second Amended Complaint.

34. The Genmab Defendants deny the allegations in paragraph 34 of the Second Amended Complaint.

35. Upon information and belief, the Genmab Defendants admit the allegations in paragraph 35 of the Second Amended Complaint.

36. The Genmab Defendants admit that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants admit that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval

for daratumumab. The Genmab Defendants admit that paragraph 36 of the Second Amended Complaint refers to a transcript of a conference call of August 30, 2012, and refer to the transcript for its full and complete contents. The Genmab Defendants further admit with respect to the GEN504 clinical trial, Dr. Van de Winkel stated in part, “Janssen will operationally execute that one, but Genmab will be very, very involved because we wrote the protocol etc. But Janssen will operationally manage that.” The Genmab Defendants deny the remaining allegations in paragraph 36 of the Second Amended Complaint.

37. The Genmab Defendants admit that United States Patent No. 7,829,673 (the “’673 Patent”) was filed on March 23, 2006, and that Genmab A/S is listed as the assignee on the face of the ’673 Patent.

38. The Genmab Defendants admit that WO/2005/103083 A2 refers to an antibody called “MOR03079”; admit that PCT publication WO/2005/103083 A2 is cited in the ’673 Patent; admit that the PCT publication was cited by Genmab A/S on an Information Disclosure Statement during prosecution of the ’673 Patent; admit that the United States Patent and Trademark Office determined that the subject matter claimed in the ’673 Patent was patentable over WO/2005/103083; and admit that the ’673 Patent issued on November 9, 2010, before the issuance of the ’746 Patent. The Genmab Defendants also admit that the monoclonal antibody daratumumab is referred to in the specification of the ’673 Patent as the “–005 antibody.” The Genmab Defendants admit that the ’673 Patent provides data indicating that Genmab’s –005 antibody exhibited superior characteristics in comparison to MOR03079. The Genmab Defendants also admit that the ’746 Patent is purportedly the National Phase patent derived from the PCT publication. The Genmab Defendants deny the remaining allegations in paragraph 38 of the Second Amended Complaint.

39. The Genmab Defendants deny the allegations in paragraph 39 of the Second Amended Complaint.

40. The Genmab Defendants admit that, upon information and belief, the current FDA-approved label for Darzalex[®] (daratumumab) indicates that daratumumab “binds to CD38 and inhibits the growth of CD38 expressing tumor cells.” The Genmab Defendants admit that the determination of where an antibody binds on a specific antigen may depend on the test used, and that no such determination for daratumumab has been made using the “PepSpot-Analysis” described in the ’746 Patent. The Genmab Defendants admit that paragraph 38 of the Second Amended Complaint references a document that states, “[a]mino acids D202, Q272, and especially S274 are essential for daratumumab binding,” and admits that those results were not obtained using the “PepSpot-Analysis” described in the ’746 Patent. The Genmab Defendants deny the remaining allegations in paragraph 40 of the Second Amended Complaint.

41. The Genmab Defendants deny the allegations in paragraph 41 of the Second Amended Complaint.

42. The Genmab Defendants deny the allegations in paragraph 42 of the Second Amended Complaint.

43. This paragraph is directed to Janssen and no response is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 43 of the Second Amended Complaint.

44. The Genmab Defendants admit that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants admit that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of

daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab. The Genmab Defendants deny the remaining allegations in paragraph 44 of the Second Amended Complaint.

45. The Genmab Defendants deny the allegations in paragraph 45 of the Second Amended Complaint.

46. The Genmab Defendants admit that the link provided in paragraph 46 of the Second Amended Complaint links to a webpage that appears to be dated "6-12-2012," and that the web page refers to the '746 Patent, but deny that the '746 Patent issued by June 12, 2012. The Genmab Defendants admit that they learned of the '746 Patent after its issuance, but deny that the '746 Patent was part of Genmab A/S's efforts to develop anti-CD38 antibodies or seek partners for Darzalex[®]. The Genmab Defendants deny the remaining allegations in paragraph 46 of the Second Amended Complaint.

47. The Genmab Defendants admit that paragraph 47 of the Second Amended Complaint refers to a transcript of a conference call, and refer to the transcript for its full and complete contents. The Genmab Defendants admit that the transcript indicates that Dr. Van de Winkel stated, in part, that "this patent was known since 2011 and has been studied very carefully. There has been extensive due diligence by Janssen as well as more than 10 other pharma or biotech companies on this patent case, we believe." The Genmab Defendants deny the remaining allegations in paragraph 47 of the Second Amended Complaint.

48. The Genmab Defendants deny the allegations in paragraph 48 of the Second Amended Complaint.

49. The Genmab Defendants admit that Genmab A/S filed a European Opposition to EP2511297 B1 on January 8, 2016. Upon information and belief, Janssen also filed a European

Opposition to EP2511297 B1. The Genmab Defendants admit that the '746 Patent purports to be the National Stage Entry of PCT/IB2005/002476, which was published as Int'l Patent Publ. No. WO2005/103083 and European Patent No. EP2511297 A1. The Genmab Defendants admit that EP2511297 B1 and the '746 Patent purport to claim priority to United States Provisional Application Nos. 60/614,471; 60/599,014; 60/553,948; 60/547,584; and 60/541,911. The Genmab Defendants deny the remaining allegations in paragraph 49 of the Second Amended Complaint.

50. This paragraph is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants admit, upon information and belief, that Janssen knew of the issuance of the '746 Patent after its issuance, but deny the remaining allegations in paragraph 50 of the Second Amended Complaint.

51. The Genmab Defendants admit that they learned of the '746 Patent after its issuance. The Genmab Defendants deny the remaining allegations in paragraph 51 of the Second Amended Complaint.

52. This paragraph is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent an answer is deemed required, the Genmab Defendants admit, upon information and belief, that Janssen knew of the issuance of the '061 Patent after its issuance, but deny the remaining allegations in paragraph 52 of the Second Amended Complaint.

53. The Genmab Defendants admit that they learned of the '061 Patent after its issuance. The Genmab Defendants deny the remaining allegations in paragraph 53 of the Second Amended Complaint.

54. This paragraph is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants admit, upon information and belief, that Janssen knew of the issuance of the '590 Patent after its issuance, but deny the remaining allegations in paragraph 54 of the Second Amended Complaint.

55. The Genmab Defendants admit the allegations in paragraph 55 of the Second Amended Complaint.

56. The Genmab Defendants admit that they knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, and that they were aware of the '590 ~~patent~~Patent upon its issuance. The Genmab Defendants admit, upon information and belief, that Janssen knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, was aware of the '590 Patent upon its issuance, and that Janssen has sold Darzalex[®] since then. The Genmab Defendants otherwise deny the allegations in paragraph 56 of the Second Amended Complaint.

57. The Genmab Defendants admit that Genmab A/S granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize daratumumab in August 2012, and refer to the license agreement for its full and complete contents. The Genmab Defendants admit that Genmab A/S or its foreign affiliates initiated preclinical and clinical studies of daratumumab in support of the IND and provided input on Janssen's BLA seeking FDA approval for daratumumab. The Genmab Defendants deny the remaining allegations in paragraph 57 of the Second Amended Complaint.

58. The Genmab Defendants deny the allegations in paragraph 58 of the Second Amended Complaint.

59. The Genmab Defendants deny the allegations in paragraph 59 of the Second Amended Complaint.

60. The Genmab Defendants deny the allegations in paragraph 60 of the Second Amended Complaint.

61. The Genmab Defendants deny the allegations in paragraph 61 of the Second Amended Complaint.

62. The Genmab Defendants deny the allegations in paragraph 62 of the Second Amended Complaint.

63. The Genmab Defendants deny the allegations in paragraph 63 of the Second Amended Complaint.

64. Upon information and belief, the Genmab Defendants admit that the Indications and Usage section of the current FDA-approved label for Darzalex[®] states that “DARZALEX is a CD38-directed cytolytic antibody indicated” “in combination with lenalidomide and dexamethasone, or bortezomib and dexamethasone, for the treatment of patients with multiple myeloma who have received at least one prior therapy”, “in combination with pomalidomide and dexamethasone, for the treatment of patients with multiple myeloma who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor (PI)”, or “as monotherapy, for the treatment of patients with multiple myeloma who have received at least three prior lines of therapy including a proteasome inhibitor (PI) and an immunomodulatory agent or who are double-refractory to a PI and an immunomodulatory agent.” The Genmab Defendants deny the remaining allegations in paragraph 64 of the Second Amended Complaint.

65. The Genmab Defendants deny the allegations in paragraph 65 of the Second Amended Complaint.

66. Upon information and belief, the Genmab Defendants admit that Janssen is conducting clinical studies in support of additional indications for Darzalex[®] (daratumumab). The Genmab Defendants deny the remaining allegations in paragraph 66 of the Second Amended Complaint.

COUNT I

~~Infringement of the '746 Patent by Janssen~~

67. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants repeat and reallege their responses to paragraphs 1 through 66 of the Second Amended Complaint as if fully set forth herein.

68. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 68 of the Second Amended Complaint.

69. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 69 of the Second Amended Complaint.

70. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 70 of the Second Amended Complaint.

71. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 71 of the Second Amended Complaint.

COUNT II

(Infringement of the '746 Patent by Genmab)

72. The Genmab Defendants repeat and reallege their responses to paragraphs 1 through 71 of the Second Amended Complaint as if fully set forth herein.

73. The Genmab Defendants deny the allegations in paragraph 73 of the Second Amended Complaint.

74. The Genmab Defendants deny the allegations in paragraph 74 of the Second Amended Complaint.

75. The Genmab Defendants deny the allegations in paragraph 75 of the Second Amended Complaint.

COUNT III

(Infringement of the '746 Patent by Genmab US, Inc.)

76. The Genmab Defendants repeat and reallege their responses to paragraphs 1 through 75 of the Second Amended Complaint as if fully set forth herein.

77. The Genmab Defendants deny the allegations in paragraph 77 of the Second Amended Complaint.

78. The Genmab Defendants deny the allegations in paragraph 78 of the Second Amended Complaint.

79. The Genmab Defendants deny the allegations in paragraph 79 of the Second Amended Complaint.

COUNT IV

(Infringement of the '746 Patent by Janssen/Genmab/Genmab US, Inc.)

80. The Genmab Defendants repeat and reallege their responses to paragraphs 1 through 79 of the Second Amended Complaint as if fully set forth herein.

81. The Genmab Defendants deny the allegations in paragraph 81 of the Second Amended Complaint.

82. The Genmab Defendants deny the allegations in paragraph 82 of the Second Amended Complaint.

83. The Genmab Defendants deny the allegations in paragraph 83 of the Second Amended Complaint.

84. The Genmab Defendants deny the allegations in paragraph 84 of the Second Amended Complaint.

85. The Genmab Defendants deny the allegations in paragraph 85 of the Second Amended Complaint.

COUNT V

(Infringement of the '061 Patent by Janssen)

86. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants repeat and reallege their responses to paragraphs 1 through 85 of the Second Amended Complaint as if fully set forth herein.

87. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 87 of the Second Amended Complaint.

88. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 88 of the Second Amended Complaint.

89. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 89 of the Second Amended Complaint.

90. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 90 of the Second Amended Complaint.

91. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants admit, upon information and belief, that Janssen received a copy of the '061 Patent at the time MorphoSys sought leave to file the First Amended Complaint and that Janssen knew of the issuance of the '061 Patent after its issuance. The Genmab Defendants otherwise deny the allegations in paragraph 91 of the Second Amended Complaint.

92. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 92 of the Second Amended Complaint.

93. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants admit, upon information and belief, that Janssen received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that Janssen knew of the issuance of the '061 Patent after its issuance. The Genmab Defendants deny the remaining allegations in paragraph 93 of the Second Amended Complaint.

94. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 94 of the Second Amended Complaint.

95. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 95 of the Second Amended Complaint.

96. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 96 of the Second Amended Complaint.

97. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 97 of the Second Amended Complaint.

98. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 98 of the Second Amended Complaint.

COUNT VI
(Infringement of the '061 Patent by Genmab)

99. The Genmab Defendants repeat and reallege their responses to paragraphs 1 through 98 of the Second Amended Complaint as if fully set forth herein.

100. The Genmab Defendants deny the allegations in paragraph 100 of the Second Amended Complaint.

101. The Genmab Defendants deny the allegations in paragraph 101 of the Second Amended Complaint.

102. The Genmab Defendants deny the allegations in paragraph 102 of the Second Amended Complaint.

103. The Genmab Defendants deny the allegations in paragraph 103 of the Second Amended Complaint.

104. The Genmab Defendants admit that they received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that they knew of the issuance of the '061 Patent after its issuance. The Genmab Defendants otherwise deny the remaining allegations in paragraph 104 of the Second Amended Complaint.

105. The Genmab Defendants deny the allegations in paragraph 105 of the Second Amended Complaint.

106. The Genmab Defendants admit that they received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. The Genmab Defendants deny the remaining allegations in paragraph 106 of the Second Amended Complaint.

107. The Genmab Defendants deny the allegations in paragraph 107 of the Second Amended Complaint.

108. The Genmab Defendants deny the allegations in paragraph 108 of the Second Amended Complaint.

109. The Genmab Defendants deny the allegations in paragraph 109 of the Second Amended Complaint.

110. The Genmab Defendants deny the allegations in paragraph 110 of the Second Amended Complaint.

COUNT VII

(Infringement of the '061 Patent by Genmab US, Inc.)

111. The Genmab Defendants repeat and reallege their responses to paragraphs 1 through 110 of the Second Amended Complaint as if fully set forth herein.

112. The Genmab Defendants deny the allegations in paragraph 112 of the Second Amended Complaint.

113. The Genmab Defendants deny the allegations in paragraph 113 of the Second Amended Complaint.

114. The Genmab Defendants deny the allegations in paragraph 114 of the Second Amended Complaint.

115. The Genmab Defendants deny the allegations in paragraph 115 of the Second Amended Complaint.

116. The Genmab Defendants admit that they received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. The Genmab Defendants otherwise deny the remaining allegations in paragraph 116 of the Second Amended Complaint.

117. The Genmab Defendants deny the allegations in paragraph 117 of the Second Amended Complaint.

118. The Genmab Defendants admit that they received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. The Genmab Defendants deny the remaining allegations in paragraph 118 of the Second Amended Complaint.

119. The Genmab Defendants deny the allegations in paragraph 119 of the Second Amended Complaint.

120. The Genmab Defendants deny the allegations in paragraph 120 of the Second Amended Complaint.

121. The Genmab Defendants deny the allegations in paragraph 121 of the Second Amended Complaint.

122. The Genmab Defendants deny the allegations in paragraph 122 of the Second Amended Complaint.

COUNT VIII

(Infringement of the '061 ~~patent~~ Patent by Janssen/Genmab/Genmab US, Inc.)

123. The Genmab Defendants repeat and reallege their responses to paragraphs 1 through 122 of the Second Amended Complaint as if fully set forth herein.

124. The Genmab Defendants deny the allegations in paragraph 124 of the Second Amended Complaint.

125. The Genmab Defendants deny the allegations in paragraph 125 of the Second Amended Complaint.

126. The Genmab Defendants deny the allegations in paragraph 126 of the Second Amended Complaint.

127. The Genmab Defendants deny the allegations in paragraph 127 of the Second Amended Complaint.

128. The Genmab Defendants admit, upon information and belief, that Janssen received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that Janssen knew of the issuance of the '061 Patent after its issuance. The Genmab Defendants admit that they received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that the Genmab

Defendants knew of the issuance of the '061 Patent after its issuance. The Genmab Defendants otherwise deny the remaining allegations in paragraph 128 of the Second Amended Complaint.

129. The Genmab Defendants deny the allegations in paragraph 129 of the Second Amended Complaint.

130. The Genmab Defendants admit, upon information and belief, that Janssen received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that Janssen knew of the issuance of the '061 Patent after its issuance. The Genmab Defendants admit that they received a copy of the '061 Patent at the time MorphoSys sought leave to file the Second Amended Complaint and that the Genmab Defendants knew of the issuance of the '061 Patent after its issuance. The Genmab Defendants otherwise deny the allegations in paragraph 130 of the Second Amended Complaint.

131. The Genmab Defendants deny the allegations in paragraph 131 of the Second Amended Complaint.

132. The Genmab Defendants deny the allegations in paragraph 132 of the Second Amended Complaint.

133. The Genmab Defendants deny the allegations in paragraph 133 of the Second Amended Complaint.

134. The Genmab Defendants deny the allegations in paragraph 134 of the Second Amended Complaint.

135. The Genmab Defendants deny the allegations in paragraph 135 of the Second Amended Complaint.

COUNT VIII

(Infringement of the '590 ~~patent~~ Patent by Janssen)

136. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants repeat and reallege their responses to paragraphs 1 through 135 of the Second Amended Complaint as if fully set forth herein.

137. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 137 of the Second Amended Complaint.

138. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 138 of the Second Amended Complaint.

139. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 139 of the Second Amended Complaint.

140. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 140 of the Second Amended Complaint.

141. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants admit, on information and belief, that Janssen knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, was aware of the '590 Patent upon its issuance, and that Janssen has sold Darzalex® since then. The Genmab Defendants otherwise deny the allegations in paragraph 141 of the Second Amended Complaint.

142. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 142 of the Second Amended Complaint.

143. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants admit, on information and belief, that Janssen knew of the issuance of the '590 Patent after its issuance. The Genmab Defendants deny the remaining allegations in paragraph 143 of the Second Amended Complaint.

144. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 144 of the Second Amended Complaint.

145. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 145 of the Second Amended Complaint.

146. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 146 of the Second Amended Complaint.

147. This count is not directed to the Genmab Defendants and therefore no response by the Genmab Defendants is required. To the extent a response is deemed required, the Genmab Defendants deny the allegations in paragraph 147 of the Second Amended Complaint.

COUNT X

(Infringement of the '590 patentPatent by Genmab)

148. The Genmab Defendants repeat and reallege their responses to paragraphs 1 through 147 of the Second Amended Complaint as if fully set forth herein.

149. The Genmab Defendants deny the allegations in paragraph 149 of the Second Amended Complaint.

150. The Genmab Defendants deny the allegations in paragraph 150 of the Second Amended Complaint.

151. The Genmab Defendants deny the allegations in paragraph 151 of the Second Amended Complaint.

152. The Genmab Defendants deny the allegations in paragraph 152 of the Second Amended Complaint.

153. The Genmab Defendants admit that they knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, that they were aware of the '590 ~~patent~~Patent upon its issuance, and that Janssen has sold Darzalex® since then. The Genmab Defendants otherwise deny the allegations in paragraph 153 of the Second Amended Complaint.

154. The Genmab Defendants deny the allegations in paragraph 154 of the Second Amended Complaint.

155. The Genmab Defendants admit that they knew of the issuance of the '590 Patent after its issuance. The Genmab Defendants deny the remaining allegations in paragraph 155 of the Second Amended Complaint.

156. The Genmab Defendants deny the allegations in paragraph 156 of the Second Amended Complaint.

157. The Genmab Defendants deny the allegations in paragraph 157 of the Second Amended Complaint.

158. The Genmab Defendants deny the allegations in paragraph 158 of the Second Amended Complaint.

159. The Genmab Defendants deny the allegations in paragraph 159 of the Second Amended Complaint.

COUNT XI

(Infringement of the '590 Patent by Genmab US, Inc.)

160. The Genmab Defendants repeat and reallege their responses to paragraphs 1 through 159 of the Second Amended Complaint as if fully set forth herein.

161. The Genmab Defendants deny the allegations in paragraph 161 of the Second Amended Complaint.

162. The Genmab Defendants deny the allegations in paragraph 162 of the Second Amended Complaint.

163. The Genmab Defendants deny the allegations in paragraph 163 of the Second Amended Complaint.

164. The Genmab Defendants deny the allegations in paragraph 164 of the Second Amended Complaint.

165. The Genmab Defendants admit that they knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, that they were aware of the '590 ~~patent~~Patent upon its issuance, and that Janssen has sold Darzalex[®] since then. The Genmab Defendants otherwise deny the allegations in paragraph 165 of the Second Amended Complaint.

166. The Genmab Defendants deny the allegations in paragraph 166 of the Second Amended Complaint.

167. The Genmab Defendants admit that they knew of the issuance of the '590 Patent after its issuance. The Genmab Defendants deny the remaining allegations in paragraph 167 of the Second Amended Complaint.

168. The Genmab Defendants deny the allegations in paragraph 168 of the Second Amended Complaint.

169. The Genmab Defendants deny the allegations in paragraph 169 of the Second Amended Complaint.

170. The Genmab Defendants deny the allegations in paragraph 170 of the Second Amended Complaint.

171. The Genmab Defendants deny the allegations in paragraph 171 of the Second Amended Complaint.

COUNT XII

(Infringement of the '590 ~~patent~~ Patent by Janssen/Genmab/Genmab US, Inc.)

172. The Genmab Defendants repeat and reallege their responses to paragraphs 1 through 171 of the Second Amended Complaint as if fully set forth herein.

173. The Genmab Defendants deny the allegations in paragraph 173 of the Second Amended Complaint.

174. The Genmab Defendants deny the allegations in paragraph 174 of the Second Amended Complaint.

175. The Genmab Defendants deny the allegations in paragraph 175 of the Second Amended Complaint.

176. The Genmab Defendants deny the allegations in paragraph 176 of the Second Amended Complaint.

177. The Genmab Defendants admit that they knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, and that they were aware of the '590 ~~patent~~Patent upon its issuance. The Genmab Defendants admit, upon information and belief, that Janssen knew that the U.S. Patent and Trademark Office indicated allowability of certain claims of Application No. 14/958,980 before September 12, 2017, was aware of the '590 Patent upon its issuance, and that Janssen has sold Darzalex[®] since then. The Genmab Defendants otherwise deny the allegations in paragraph 177 of the Second Amended Complaint.

178. The Genmab Defendants deny the allegations in paragraph 178 of the Second Amended Complaint.

179. The Genmab Defendants admit that they knew of the issuance of the '590 Patent after its issuance. The Genmab Defendants admit, upon information and belief, that Janssen knew of the issuance of the '590 Patent after its issuance. The Genmab Defendants otherwise deny the allegations in paragraph 179 of the Second Amended Complaint.

180. The Genmab Defendants deny the allegations in paragraph 180 of the Second Amended Complaint.

181. The Genmab Defendants deny the allegations in paragraph 181 of the Second Amended Complaint.

182. The Genmab Defendants deny the allegations in paragraph 182 of the Second Amended Complaint.

183. The Genmab Defendants deny the allegations in paragraph 183 of the Second Amended Complaint.

184. The Genmab Defendants deny the allegations in paragraph 184 of the Second Amended Complaint.

MORPHOSYS'S PRAYER FOR RELIEF

185. The Genmab Defendants reassert and incorporate herein by reference their responses to Paragraphs 1 through 184 of the Second Amended Complaint and deny that MorphoSys is entitled to any relief or judgment against the Genmab Defendants whatsoever, including the relief requested in paragraphs A–F of the Second Amended Complaint. All allegations not specifically admitted are denied.

DEMAND FOR JURY TRIAL

186. The Genmab Defendants acknowledge that the Second Amended Complaint sets forth a demand for trial by jury.

GENMAB A/S AFFIRMATIVE DEFENSE

(No Personal Jurisdiction and Improper Venue)

187. The Second Amended Complaint should be dismissed against Genmab A/S under Federal Rule of Civil Procedure 12(b)(2) because this court lacks personal jurisdiction over Genmab A/S. Genmab A/S's contacts with the United States do not give rise to general or specific jurisdiction. The Second Amended Complaint should also be dismissed against Genmab A/S under Federal Rule of Civil Procedure 12(b)(3) because venue is improper in this Court.

188. Genmab A/S is not "at home" in the United States. Genmab A/S is a Danish corporation headquartered in Denmark. Nor does Genmab A/S have "substantial" contacts rendering this an "exceptional case." Thus, there is no general jurisdiction over Genmab A/S.

189. This Court also lacks specific personal jurisdiction over Genmab A/S because MorphoSys's claims for patent infringement do not arise out of or relate to Genmab A/S's activities in the United States. MorphoSys's Second Amended Complaint fails to plausibly establish any act of infringement by Genmab A/S (or by Genmab US, Inc., for that matter) in the United States, much less in Delaware. MorphoSys's claims of patent infringement therefore do not "arise" from these activities. The few contacts Genmab A/S has had with the United States do not constitute patent infringement and therefore fail to provide a basis for establishing specific jurisdiction in Delaware, or anywhere else in the United States.

190. Venue is also improper in this district. Because Genmab A/S does not “reside” in this district, and Genmab A/S has not committed acts of infringement in this district, venue does not properly lie in this district. 28 U.S.C. §§ 1391(c) & 1400(b).

THE GENMAB DEFENDANTS’ JOINT AFFIRMATIVE DEFENSES

191. —The Genmab Defendants hereby assert the following defenses, undertaking the burden of proof only to the extent required by law:

FIRST JOINT DEFENSE
(Noninfringement)

192. —The making, using, offering to sell, selling and/or importing into the United States of the accused antibody product Darzalex[®] (daratumumab) has not infringed, does not infringe, and would not, if made, used, sold, offered for sale, and/or imported into the United States, directly or indirectly infringe any valid and enforceable claim of the ’746, ’061, or ’590 Patents, either literally or under the doctrine of equivalents.

SECOND JOINT DEFENSE
(No Induced Infringement)

193. The Genmab Defendants have not induced, do not induce, and will not induce infringement of any valid and enforceable claim of the ’746, ’061, or ’590 Patents.

THIRD JOINT DEFENSE
(No Contributory Infringement)

194. —The Genmab Defendants have not contributed, do not contribute, and will not contribute to infringement of any valid and enforceable claim of the ’746, ’061, or ’590 Patents.

FOURTH JOINT DEFENSE

(Invalidity)

195. ——— The claims of the '746 and '061 Patents are invalid for failure to satisfy one or more of the requirements of the patent laws of the United States, including but not limited to, 35 U.S.C. §§ 101, 102, 103, and/or 112.

FIFTH JOINT DEFENSE

(Failure to State a Claim)

196. ——— The Second Amended Complaint fails to state a claim upon which relief can be granted.

SIXTH JOINT DEFENSE

(Prosecution History Estoppel)

197. ——— MorphoSys's claims are barred, in whole or in part, by representations or actions taken during the prosecution of the '746, '061, or '590 Patents, and related patents and applications, under the doctrine of prosecution-history estoppel or prosecution disclaimer.

SEVENTH JOINT DEFENSE

(35 U.S.C. § 288)

198. ——— MorphoSys is not entitled to seek recovery of its costs pursuant to 35 U.S.C. § 288.

EIGHTH JOINT DEFENSE

(Exceptional Case)

199. ——— MorphoSys's pursuit of this case is exceptional under 35 U.S.C. § 285. The Genmab Defendants are entitled to an award of their attorneys' fees in connection with defending against this action.

NINTH JOINT DEFENSE

(Inequitable Conduct)

200. The '746, '061, and '590 Patents are unenforceable due to inequitable conduct, for the reasons set forth in paragraphs 202 to 358 of the Counterclaim, set forth below.

RESERVATION OF RIGHTS

201. ———In filing the defenses, the Genmab Defendants have not knowingly or intentionally waived any applicable defenses. The Genmab Defendants reserve the right to assert and rely upon any other applicable defenses that may become available or apparent during the course of this action. The Genmab Defendants reserve the right to amend or to seek to amend their answer or affirmative defenses.

COUNTERCLAIMS

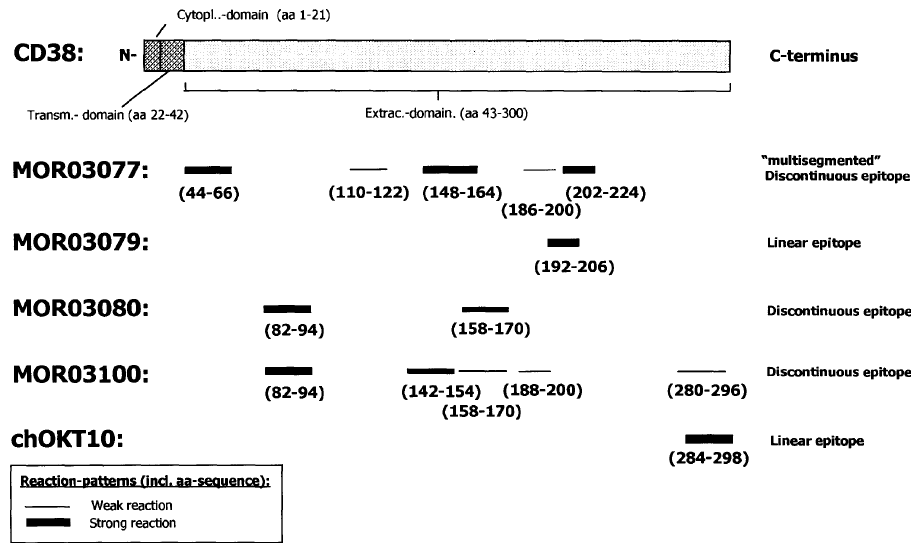
(Declaratory Judgment of Unenforceability)

202. This is a counterclaim for declaratory judgment pursuant to 28 U.S.C. §§ 2201 and 2202 for the purpose of determining an actual and justiciable controversy between the parties. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338 (a).

The Patents-in-Suit

203. The '746, '061, and '590 Patents all include claims to antibodies that bind to the naturally occurring protein CD38, and methods of using those antibodies. In an effort to distinguish these antibodies from those in the prior art, the claims define them, in whole or in part, according to their ability to bind specific regions of amino acids on the CD38 protein. For example, claim 15 of the '746 Patent claims an antibody that “specifically binds within amino acids 44-66, 82-94, 142-154, 148-164, 158-170, or 192-206 of CD38 (SEQ ID NO: 22).” '746 Patent 68:45-48 (claim 15). The patents define the regions of CD38 to which the claimed antibodies bind as their “epitope.” All three patents base these epitope claims solely on the data shown in Figure 7, described as “a schematic overview of epitopes of representative antibodies of the present invention” from a “PepSpot analysis” ('746 Patent at 5:23-24, 27:5-9):

Fig.7: Schematic Overview of Epitopes



204. Figure 7 sets forth the “purported” epitopes of four disclosed antibodies: MOR03077, MOR03079, MOR03080, and MOR03100. For example, MOR03080 is shown to bind an epitope consisting of amino acid regions 82-94 and 158-170 of CD38, whereas MOR03079 is shown to bind an epitope consisting of positions 192-206 of CD38. The prior art chOKT10 antibody is reported to bind an epitope consisting of amino acid region 284-298, which lies in the C-terminal region of CD38

205. Based solely on this Figure 7 data, the specifications of all three patents report that for MOR03080 the epitope “peptides comprise aa 82-94 and aa 158-170,” whereas “[t]he epitope for MOR03079 can be postulated within aa 192-206 (VSRRFAEAACDVVHV (SEQ ID NO: 38)) of CD38....” For MOR03077, the postulated epitope “includes aa 44-66, 110-122, 148-164, 186-200 and 202-224,” and for MOR03100, the epitope peptides comprise “aa 82-94, 142-154, 158-170, 188-200 and 280-296.” See ’746 Patent 27:22-36; ’061 Patent 26:38-52; ’590 Patent 24:39-53 (all Example 6).

206. Based solely on the epitope results presented in Figure 7, the Patents-in-Suit claim antibodies by their epitopes, and include claims directed specifically to any human or humanized antibodies that specifically bind within amino acids 82-94 and 158-170 (corresponding to MOR03080).

207. Both the '746 and '061 Patents claim specific antibodies (and methods of using them) that bind the epitope disclosed in Figure 7 for MOR03080, namely the amino acid regions 82-94 and 158-170 of CD38. These claims include '746 Patent asserted claim 15 (“specifically binds within amino acids 44-66, **82-94**, 142-154, 148- 164, **158-170**, or 192-206 of CD38”); '746 Patent claim 19 (“specifically binds within amino acids **82-94** or **158-170** of CD38”); '746 Patent claim 20 (“specifically binds within amino acids **82-94** or **158-170** of CD38”); '061 Patent claim 3 (“binds an epitope of CD38 that contains one or more amino acid residues within **82-94 and 158-170**”); and '061 Patent claims 5 through 15 (multiple dependent on claim 3). Although the '590 Patent does not include claims drawn specifically to the MOR03080 ranges 82-94 and 158-170, such claims were repeatedly sought during prosecution of that patent—at which point MorphoSys directed the examiner to the same Figure 7 data for support. See '590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 15. In addition, the ultimately issued claims, while directed to other amino acid sequences, likewise rely on Figure 7 for support.

Prosecution of the Patents-in-Suit

208. During prosecution, MorphoSys relied exclusively on Figure 7 as the sole written description support for its claimed epitope ranges.

209. For example, during prosecution of the '746 Patent, MorphoSys submitted new claims 142-148 directed to, e.g., “[a]n isolated antibody or antibody fragment thereof containing an antigen-binding region... which specifically binds within amino acids **82-94** or **158-170** of

CD38”—a region identical to disclosed epitopes for MOR03080 in Figure 7. In its accompanying applicant remarks, MorphoSys told the Examiner that “[s]upport for these claims can be found, for example, at Figure 7 and ¶¶ 0136-0138 of the published specification.” ’746 Patent file history, Oct. 18, 2011 Response to Non-Final Rejection at 8. (The paragraphs of the published specification to which MorphoSys directed the Examiner, ¶¶ 0136-0138, describe only the results shown in Figure 7; these same paragraphs appear in each Patent-in-Suit as the “Summary and Conclusions” of Example 6, which is titled “Epitope Mapping.”) MorphoSys patent attorney Paul Wiegel also attended a telephonic interview during which the Examiner and MorphoSys’s representatives discussed epitopes for then-pending claims 100 and 101, and compared these claimed epitopes with those in the prior art. See ’746 Patent file history, Oct. 14, 2011 Applicant-Initiated Interview Summary at 2. (Then-pending claim 101 is directed to epitopes comprising 44-66, **82-94**, 142-154, 148-164, **158-170**, or 192-206 of CD38, and includes specifically recited regions corresponding to the Figure 7 epitope of MOR03080.)

210. During prosecution of the ’061 Patent, MorphoSys continued to tie claims explicitly to the epitopes identified in Figure 7, particularly MOR03080. For example, MorphoSys patent attorney Paul Wiegel signed and submitted an Amendment on June 17, 2015, again including claims based entirely and exclusively on the purported MOR03080 epitope shown in Figure 7 (see, e.g., then-pending claim 30, directed to binding “an epitope of CD38 that contains one or more amino acid residues within **82-94** and **158-170**” of CD38). See ’061 Patent file history, June 17, 2015 Response after Final Rejection at 2 (containing claim amendments). In this Amendment, Mr. Wiegel stated that “the Examiner acknowledged that the specification provides support for the epitopes recited in claims 28-31.” ’061 Patent file history, June 17, 2015 Response after Final Rejection at 5. (The Examiner had indeed done so in an earlier Office

Action, relying exclusively and explicitly on Figure 7 for support for this conclusion. See '061 Patent file history, Apr. 20, 2015 Final Rejection at 4-6.)

211. Likewise during prosecution of the '590 Patent, MorphoSys again sought claims directed to the MOR03080 epitope regions 82-94 and 158-170. First, Mr. Wiegel signed and submitted a Dec. 4, 2015 preliminary amendment, in which MorphoSys sought claim 85 (including residues **82-94** and **158-170** of CD38), claim 109 (directed to an antibody “that binds to a CD38 peptide consisting of amino acid residues **82-94** of CD38”), and claim 110 (directed to an antibody that “binds to a CD38 peptide consisting of amino acid residues **158-170** of CD38), all of which are based on the Figure 7 epitope for MOR03080. See '590 Patent file history, Dec. 4, 2015 Preliminary Amendment at 15. Next, in a Feb. 4, 2016 amendment again signed and submitted by Mr. Wiegel, MorphoSys sought claim 115 (including residues **82-94** and **158-170** of CD38), claim 140 (directed to an antibody “that binds to a CD38 peptide of amino acid residues **82-94** of CD38”), and claim 141 (directed to an antibody that “binds to a CD38 peptide of amino acid residues **158-170** of CD38). See '590 Patent file history, Feb. 4, 2016 Preliminary Amendment at 2. MorphoSys and Mr. Wiegel again pointed the Examiner to “Figure 7 and paragraph [0146]” of the specification as support for its claims to antibodies binding to “CQSVWDAFKGAFI” and “TWCGEFNTSKINY” (positions **82-94** and **158-170** of CD38, which correspond to the epitope shown in Figure 7 for MOR03080). See '590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 15.

212. During prosecution, MorphoSys also relied on the epitopes disclosed in Figure 7 to distinguish its claims over the prior art. MorphoSys consistently characterized the prior art as disclosing only anti-CD38 antibodies that bind epitopes in the C-terminal region of CD38. For example, the shared specification of the '746 and '590 Patents states that all known anti-CD38

antibodies “seem to exclusively recognize epitopes (amino acid residues 220 to 300) located in the C-terminal part of CD38,” and that “[n]o antibodies are known so far that are specific for epitopes in the N-terminal part of CD38.” During prosecution of the ’746 Patent, MorphoSys distinguished its pending claims from the prior art Logtenberg “UM16” antibody because that prior art antibody competed with OKT10, while “[t]he epitope of the OKT10 antibody has been mapped to residues 280-298 at the carboxyl terminus of the 300 residue CD38 molecule.” See ’746 Patent file history, Apr. 8, 2011 Response to Restriction/Election Requirement at 10-11. Mr. Wiegel participated in an Examiner Interview in which he and the Examiner “[d]iscussed epitope of Logtenberg antibody in view of the epitope of the antibody in claims 100 and 101.” See ’746 Patent file history, Oct. 14, 2011 Applicant-Initiated Interview Summary. And similarly during prosecution of the ’590 Patent, MorphoSys again relied on the Figure 7 epitopes to distinguish its pending claims over the prior art, stating for example that “[a]pplicants respectfully submit that this epitope is novel and not taught or suggested by any of Antonelli, Ikehata or Mallone. Indeed, Applicants are not aware of any prior art that describes this amino acid region [192-206, taken from the Figure 7 epitope for MOR03079].” See ’590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 26-27.

213. MorphoSys also explicitly argued during prosecution that its then-pending claims allegedly satisfied the written description requirement under *Noelle* solely because of the epitope regions described in Figure 7:

In the instant case, Applicants’ claim 145 recites an antibody that binds to VSRRFAEAACDVVHV (SEQ ID NO: 38) [192-206 of CD38]. Applicants respectfully submit that Applicants have disclosed a fully characterized, novel antigen by its structure and, under *Noelle*, ‘the applicant can then claim an antibody by its binding affinity to that described antigen.’ Id. at 1349. Indeed, Applicants respectfully assert that the specification structurally and functionally describes the specifically claimed binding region, which was not known prior to Applicants’ discovery. As such, the novel amino acid sequence recited in

Applicants' claim constitutes a 'fully characterized' and to its knowledge 'novel antigen.' Accordingly, the instant claims fall squarely within the four corners of Noelle and a finding that the instant claims fully comply with the written description is required.

See '590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 19-20.

214. MorphoSys further based its written description argument on its alleged possession of antibodies that bind to the epitopes shown in Figure 7, stating for example that "[i]n addition, Applicants have actually reduced to practice the claimed anti-CD38 antibodies that bind to never-before bound regions of that protein, including the amino acid region of VSRRFAEAACDVVHV (SEQ ID NO: 38). So not only did Applicant fully disclose the novel antigens, Applicant generated the claimed antibodies. Therefore the person of skill in the art would appreciate that Applicant was in actual possession of the claimed antibodies." See id. at 21.

215. Thus, throughout prosecution and within the specifications of the Patents-in-Suit, MorphoSys pointed consistently and unequivocally only to Figure 7 to support its claims involving antibody epitopes on CD38. MorphoSys also explicitly relied on these Figure 7 epitopes during prosecution to distinguish its claims over the prior art, and to argue adequate written description. More specifically, MorphoSys repeatedly sought and obtained claims to antibodies that bound within the regions 82-94 and 158-170 based solely on the Figure 7 data for MOR03080. And MorphoSys did so knowing that the Figure 7 epitope data was at best unreliable—if not outright false—and concealed that fact from the Patent Office.

Deficiencies and Deception with Respect to Figure 7

216. Despite having based its entire patenting strategy on the alleged identification of a series of antibody epitopes to CD38, MorphoSys knew from the time it filed its first patent application that its alleged identification of epitopes rested on an untenable foundation. As

detailed below, by late 2006 MorphoSys held in hand data specifically contradicting its Figure 7 binding epitopes. Nonetheless, MorphoSys never updated or corrected its initial reporting of data to the Patent Office, and instead persisted for many years of additional prosecution—indeed it still maintains pending applications—to obtain the '746, '061, and '590 Patents-in-Suit, all based squarely on this same spurious data.

217. In seeking to patent its antibody development activities, MorphoSys faced several problems: Anti-CD38 antibodies were known in the prior art; CD38 was a known target for antibody therapy against multiple myeloma; and MorphoSys's own patent department had already identified competitor patents describing antibodies against CD38 and their use to treat multiple myeloma. Unable to assert that it was first to recognize CD38 as a target, first to make antibodies against CD38, or even first to develop potential antibody therapeutics, MorphoSys needed a way to distinguish its antibodies.

218. MorphoSys could have claimed the specific antibodies it developed and disclosed in the Patents-in-Suit (MOR03077, MOR03079, MOR03080, and MOR03100), but it knew those antibodies were unlikely ever to reach the clinic. MorphoSys gave up on MOR3100 within weeks of filing the first provisional applications from which the Patents-in-Suit claim priority, and although both MOR3079 and MOR3080 were for a time considered as potential leads in its “MOR202” project, they were ultimately found to be unacceptable. MorphoSys abandoned MOR03079, the initial “MOR202” lead candidate, in favor of MOR03080 by March 31, 2004, see MSYS_00993906, and also selected two “backup” candidates: MOR03087 and MOR06347— completely different antibodies not disclosed in the Patents-in-Suit. See MSYS_00058356; MSYS_00108246. MorphoSys then abandoned MOR03080 by February

2008. See MSYS_00059640. MOR03087 became known as “MOR202,” and emerged as MorphoSys’s sole candidate for use in human clinical trials.

219. Lacking specific examples of antibodies that might actually be developed as human therapies, MorphoSys sought broad claims through which it could assert coverage of the countless varieties of antibodies that its competitors might in the future develop. In short, MorphoSys claimed antibodies by their ability to bind specific regions of CD38 (i.e., according to their epitope).

220. Figure 7 is the sole source of all epitope information in the Patents-in-Suit. Figure 7 is taken directly from a single peptide array experiment performed for MorphoSys by Jerini, an outside vendor. From the start, MorphoSys knew that this peptide array technique was potentially unreliable, particularly with respect to so-called “discontinuous” epitopes (non-contiguous binding sites). Dr. Michael Tesar (a named inventor on all three Patents-in-Suit) questioned how the vendor was able to distinguish certain positive and negative results, and ultimately overrode initial binding site categorizations by the vendor. After MorphoSys had revised Jerini’s report, it gave rise to Figure 7 of the Patents-in-Suit.

221. But later follow-up experiments by the same vendor, Jerini, contradicted Figure 7—revealing a totally different epitope prediction for MOR03080 and so also calling into question the validity of the entire initial experiment. The record shows that MorphoSys adopted these later results internally and used them without reservation in presentations and communications with senior management. MorphoSys even presented these results at conferences and shared the data with third parties, including Celgene and [REDACTED]—again underscoring its reliability. MorphoSys updated its own (and others’) understanding of MOR03080’s epitope, with one notable exception: The Patent Office was

never told of the change. These later Jerini results were never reported to the Patent Office, despite being available during prosecution and relied upon heavily and without qualification by MorphoSys.

222. *Jerini PepSpot Epitope Mapping Report #3571*: MorphoSys contracted an outside laboratory, Jerini Peptide Technologies (“Jerini” or “JPT”), to conduct epitope mapping using a peptide array technique called “PepSpot.” This involved creating a series of overlapping 13-mer peptides that together spanned the sequence of CD38 protein, arraying these peptides on a cellulose membrane, and evaluating the ability of MorphoSys’s anti-CD38 antibodies to bind to each individual peptide (i.e., assorted individual 13 amino acid regions taken from CD38 sequence).

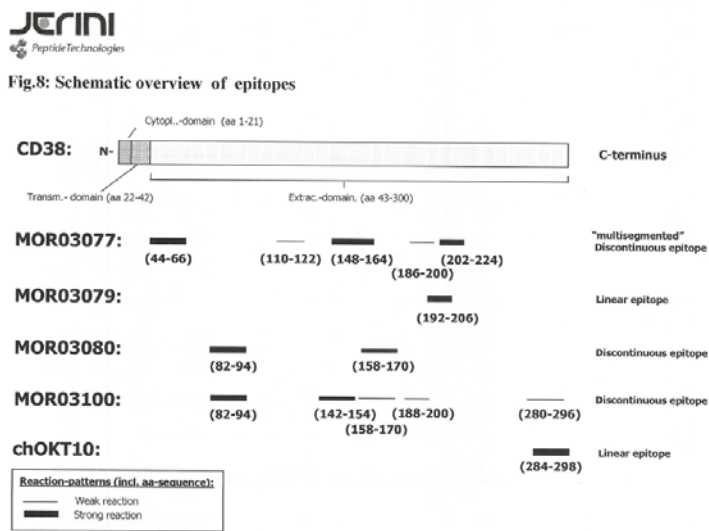
223. Jerini provided MorphoSys with advance results of this assay on August 21, 2003. Ex. 1101. On September 9, 2003, Dr. Tesar contacted Jerini disputing the identification of certain epitopes and raising questions about the appropriate signal strength threshold for calling epitope binding regions. See Ex. 1102 (discussing MOR03079: “Based upon the signal strength, I would also classify the peptide #77 as ‘significantly weaker.’ What is the threshold, and when does a signal become positive? Can you recognize the exact epitope using this analysis[?],” and discussing MOR03080: “why are the peptides #18, #22, #50, or #61, for example, not also mentioned as weakly reacting—they are at least a bit over the background (at least 3 to 5-fold)? What is the threshold for a positive signal here?”). Dr. Tesar further asked Jerini to submit the next report as a Word document so that MorphoSys “can enter the improvements mentioned” before sending Jerini a final version for signature. *Id.* On October 9, 2003, Jerini provided a report with new data directed to MOR03077, and as instructed, the report was unsigned in a Word document (“Jerini Report 3571”). Ex. 1010. During the ensuing weeks, MorphoSys

scientists requested several changes to Jerini Report 3571, including reclassifying some epitope calls for MOR03079 as background noise. Exs. 1003, 1003a. On October 28, 2003, MorphoSys emailed Jerini stating that “we would like to include a few more corrections (added in correction mode) in the final report” and asking Jerini to “please excuse the constant corrections from our side.” Ex. 1105; see also Tesar Dep. Tr. at 209:4-14. MorphoSys noted that “[d]ue to the additional insertions, the page with your signature has been bumped onto a new page—the text can probably still be tweaked so that the signature is back on the preceding page.” Ex. 1105.

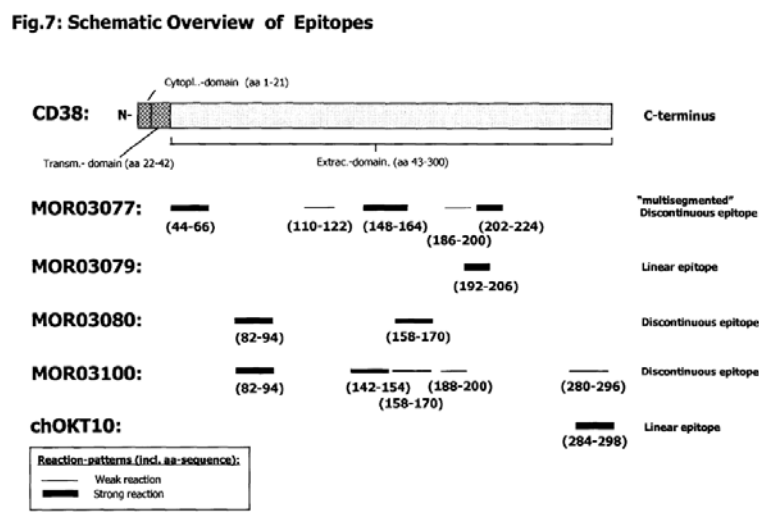
224. In its final form on October 29, 2003, as modified by MorphoSys, Jerini Report 3571 stated, *inter alia*, that MOR03080 bound to peptides corresponding to regions **82-94** and **158-170** of CD38 protein, whereas MOR03079 bound to peptides corresponding to amino acids **192-206** of CD38. See Ex. 1106. Jerini Report 3571 also stated that “[t]he epitopes for MOR03080 and MOR03100 can clearly be considered as discontinuous,” whereas MOR03077 “can be described as a multisegmented discontinuous epitope.” *Id.* at 5. Jerini Report 3571 also stated that “for a more precise epitope definition and determination of key amino acids (main antigen-antibody interaction sites) a shortening of peptides VSRRAEAACDVVHV and FLQCVKNPEDSSCTS and an alanine-scan of both should be envisaged.” *Id.* Neither a peptide shortening nor an alanine scan were performed in Jerini Report 3571.

225. MorphoSys submitted Figure 8 of Jerini Report 3571, complete with its epitope designations for the four MorphoSys antibodies, directly and without modification to the Patent Office, where it now appears as “Figure 7” of the Patents-in-Suit. See also Tesar Dep. Tr. at 232:3-233:3 (confirming that Fig. 7 is based on Jerini 3571).

226. Compare the figure as it appears in Jerini Report 3571 (Ex. 1106 Fig. 8 at 16):



with Figure 7 of the Patents-in-Suit:



227. Subsequent Jerini PepSpot Epitope Mapping: Contradictory Results for MOR03080. In the following year, 2006, MorphoSys again contracted Jerini to conduct epitope mapping on a different set of anti-CD38 antibodies (including MOR03087, today known as "MOR202," MorphoSys's current clinical lead candidate). MorphoSys included MOR03080 alongside these new antibodies as a control. MorphoSys then used this follow-up testing of MOR03080 internally and without reservation to update the predicted epitopes of MOR03080, as

well as to show the epitopes for its clinical lead candidate MOR03087, but concealed it from the Patent Office.

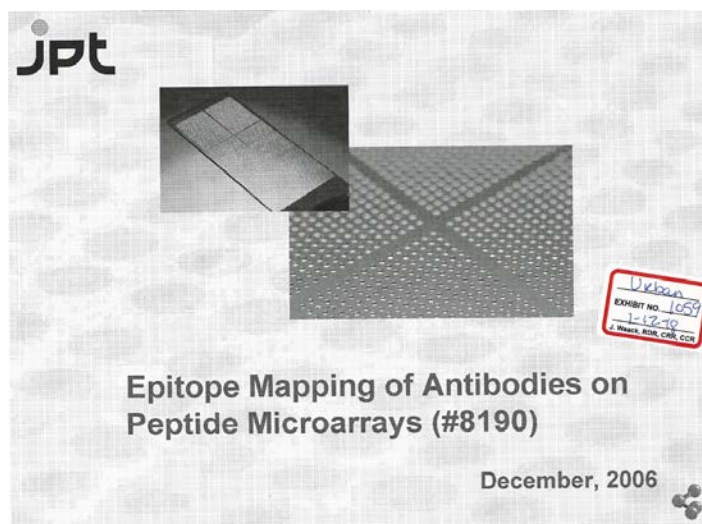
228. *Jerini PepSpot Epitope Mapping Report #8190 (Nov. 2006).* First, Jerini again performed its PepSpot analysis using a cellulose membrane as solid support. On or about November 30, 2006, Jerini issued a report on this testing (“Jerini Report 8190”). See Ex. 1057. Despite the experiment being repeated with the same antibody (MOR03080) and the same membranes and secondary antibodies, Jerini was unable to recover usable data and this experiment failed: Jerini reported that the data could not be analyzed due to excessive background noise, specifically because of interactions between the secondary detection antibody and the arrays themselves. Jerini Report 8190 ultimately stated that “[n]one of the mapping experiments yielded in [sic] detectable binding signals on the peptide array. Due to the high number of false positive signals observed in the control experiments, no reliable information could be obtained from these experiments.” *Id.* at 19. As such, from this study MorphoSys did not obtain epitope information for its ultimate clinical lead candidate (MOR03087), and also was unable to confirm the earlier MOR03080 Jerini predicted epitope (82-94 and 158-170) as reported in Figure 7 of the Patents-in-Suit.

229. MorphoSys internal communications reveal that its scientists were aware of the initial Jerini Report 8190 results no later than December 1, 2006, when Thomas Ast of Jerini emailed the report as an attachment, and Dr. Tesar emailed others at MorphoSys to discuss the results and next steps, stating that “Jerini is now going to try alternatives (glass-slides, direct labelling) in order to get it to work.” Ex. 1058.

230. Dr. Tesar testified at deposition that he did not communicate this failed Jerini Report 8190 to the Patent Office because it had a “technical issue” and it was a “decision for the

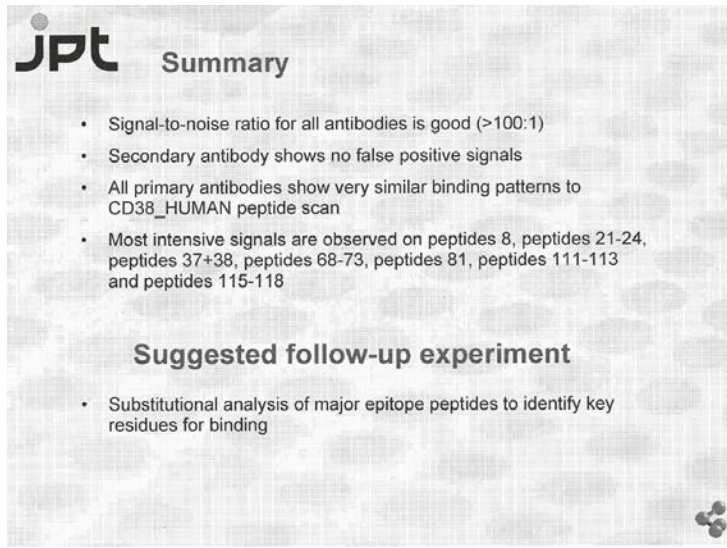
patent attorneys to – to decide whether these should be sent or not.” Tesar Dep. Tr. at 267:23-269:23.

231. *Jerini Revised Epitope Mapping Report #8190 on Glass Slides (Dec. 2006).*
Shortly thereafter, MorphoSys agreed that Jerini should redo the failed epitope mapping analysis reported in Jerini Report 8190 (*see* Steidl Dep. Tr. at 251:6-16; Ex. 1173) —but this time, the experiment was to be performed on a glass surface and with three replicates (using the mean signal intensities from three identical subarrays; *see* Ex. 1059 at slide 5) as well as additional controls (*see id.* at slide 4). This glass-slide technique is another peptide array assay technique that Jerini offers, very similar to PepSpot. Again, MOR03080 was included, as was MOR03087.



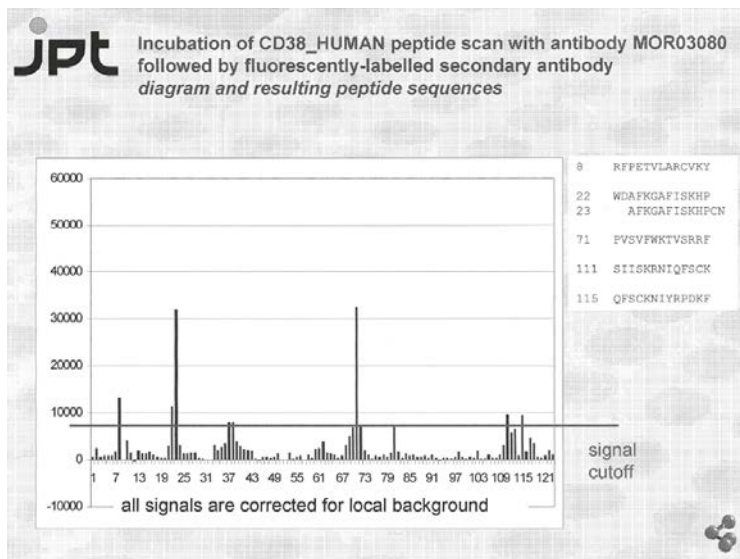
Ex. 1059 at slide 1.

232. On December 1, 2006, Jerini provided the new results in a presentation (“Jerini Replisite Report”), reporting that “[s]ignal to noise ratio for all antibodies is good (>100:1),” and that the “[s]econdary antibody shows no false positive signals”—i.e., that the problems that plagued the initial, failed Jerini Report 8190 had been corrected. Ex. 1059.



Id. at slide 21.

233. This Jerini Replotope Report, which was performed in triplicate on an array technology that Jerini still offers today, reported for MOR03080 that peptides 8, 22-23, 37-38, 71, 111, and 115 were above the “signal cutoff,” which corresponds to an epitope prediction of amino acid positions 58-70, 86-100, 116-130, 184-196, 264-284 of CD38.

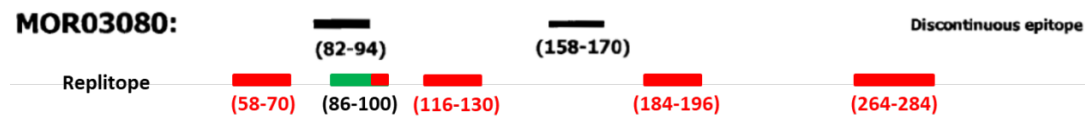


Ex. 1059 at slide 9.

234. The Jerini Replitope Report also reported the epitope for MOR03087 as peptides 8, 22-24, 37-38, 68-73, 81, 111-112, and 115, which corresponds to amino acid positions **58-70, 86-102, 116-130, 178-200, 204-216, 264-284** of CD38. *Id.* at slide 11.

235. This result—which was performed in triplicate by Jerini with “good” signal to noise ratio (>100:1) and no secondary antibody false positives—was declared by Jerini to be “evaluable” (*see* Steidl Dep. Tr. at 251:17-252:1; Ex. 1173) and reveals not only the epitope for MOR03087 (the clinical lead), but also that MOR03080 binds to a completely different epitope than initially believed, directly contradicting the results in the earlier Jerini Report 3571, as well as in Figure 7 of the Patents-in-Suit.

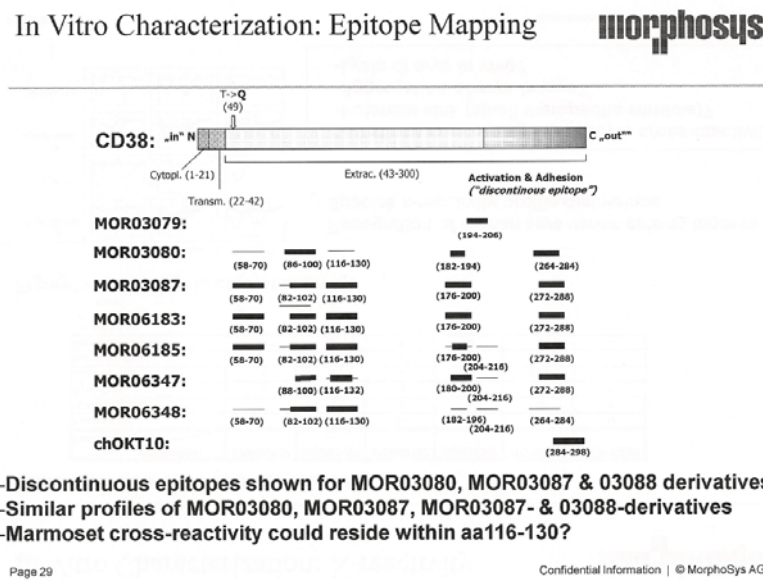
236. Below is a comparison of the MOR03080 data from Figure 7 with the Jerini Replitope Report data for MOR03080 (shown in color). The disclosed Figure 7 epitope for MOR03080, based on Jerini Report 3571, covers 26 total amino acids (positions **82-94** and **158-170** of CD38). The MOR03080 epitope as reported in the later Jerini Replitope Report is *three times longer*, covering 77 amino acids, only eight of which (10%) overlap (shown in green below). The remaining 90% of the MOR03080 epitope as reported by the Jerini Replitope Report (69 non-overlapping amino acids) is shown in red below, and directly contradicts the Figure 7 data in the Patents-in-Suit. As can be seen below, these later (withheld) results were effectively the opposite of the original results, which formed the basis for MorphoSys’s patents:



237. MorphoSys was well aware of this discrepancy. After receiving the Jerini Replitope Report, Dr. Tesar produced a draft slide deck incorporating both sets of MOR03080 results on different slides. *See* MSYS_00079373. Dr. Tesar also incorporated the new Replitope

findings in early 2007 into a PowerPoint presentation that was provided to senior management and presented to the entire scientific staff, without qualification or caveat. Within MorphoSys, the new Jerini Replitope Report results for MOR03080 simply replaced the earlier results (as submitted in Figure 7)—these earlier results are not included anywhere in, for example, this 2007 presentation. In other words, these later “Replitope” results were treated as the correct, updated data, which superseded the prior results reported in the patent application. Yet, putting their interest in patent issuance above their duty of candor to the Patent Office, neither Dr. Tesar nor anyone else at MorphoSys ever informed the Patent Office or updated Figure 7 during the following years of prosecution.

238. Below is a slide from Dr. Tesar’s 2007 presentation, prepared approximately two months after he received the Jerini Replitope Report, which clearly incorporates and presents the new epitope results for MOR03080:



Ex. 1123 at slide 29.

239. Despite attempts during deposition by MorphoSys witnesses to downplay the reliability of the Jerini Replitope Report, contemporaneous communications and presentations

demonstrate that MorphoSys in fact deemed the revised epitope results to be reliable. For example, as detailed more fully below, MorphoSys relied on the Jerini Replitope Report when reporting epitope data of its MOR03087 clinical lead (see, e.g., MSYS_00064221 at slide 26), including when comparing MOR03087 to its Sanofi and Genmab competitors (see, e.g., MSYS_00064221 at slide 84). And in May 2013, third-party collaborator Celgene asked for “a summary of the results of the MOR3080 epitope mapping.” MSYS_00575470. MorphoSys patent attorney Paul Wiegel responded, stating “[p]lease find attached the summary of the MOR3080 epitope mapping,” and attached only the Jerini Replitope Report, in its entirety:

Sender: Paul Wiegel </O=MORPHOSYS_GMBH/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=PAULW>
Sent: Wednesday, May 29, 2013 11:05:45 AM
Recipient: Carla Kuhner <ckuhner@celgene.com>
Cc: Konstantin Petropoulos <Konstantin.Petropoulos@morphosys.com>; Ariel Jasie <ajasie@celgene.com>
Subject: RE: MOR3080 epitope MAP
Attachments: Antibody_Profiling_Tesar-8190_final.pdf

Dear Carla

Thanks for your patience. Please find attached the summary of the MOR3080 epitope mapping. Please let me know if you would like to discuss.

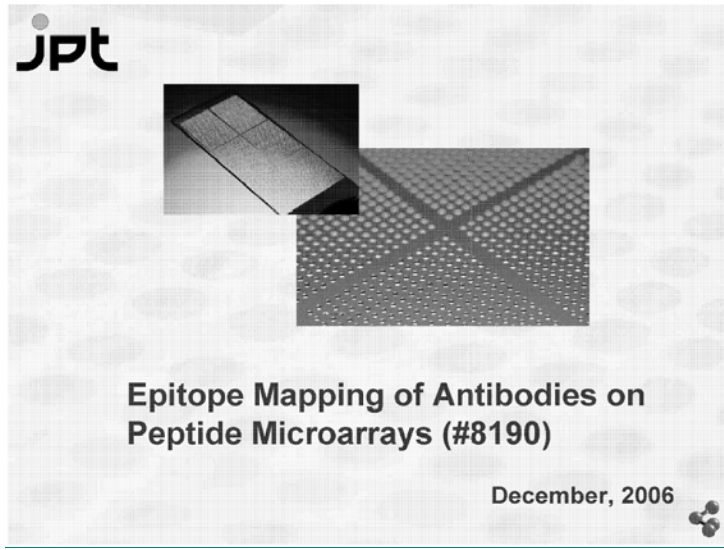
Kind regards,

Paul

Paul F. Wiegel, J.D., LL.M.
Associate Director, Intellectual Property
U.S. Patent Attorney

MorphoSys AG
Lena-Christ-Str. 48
D-82152 Planegg-Martinsried

MSYS_00575470.



MSYS_00575472.

240. In sum, the results of the Jerini Replotope Report contradict the MOR03080 epitope results shown in the earlier Jerini Report 3571 and patent Figure 7. These later results, by the same vendor and testing the same antibody, completely undermine MorphoSys's claim to an antibody that binds to at least positions 82-94 and 158-170 of CD38. See '746 Patent asserted claim 15 ("specifically binds within amino acids 44-66, **82-94**, 142-154, 148- 164, **158-170**, or 192-206 of CD38"); '746 Patent claim 19 ("specifically binds within amino acids **82-94 or 158-170** of CD38"); '746 Patent claim 20 ("specifically binds within amino acids **82-94 or 158-170** of CD38"); '061 Patent claim 3 ("binds an epitope of CD38 that contains one or more amino acid residues within **82-94 and 158-170**"); and '061 Patent claims 5 through 15 (multiple dependent on claim 3). The Jerini Replotope Results also undermine all other Figure 7 results as well, and all epitope claims that depend on Figure 7.

241. In spite of this, only the results of Jerini Report #3571 were ever communicated to the Patent Office.

Further Concealed Evidence of the Unreliability of the Figure 7 Epitopes

242. Well before the Jerini Replitope Report arrived in December 2006, MorphoSys already had ample reason to know that its Figure 7 epitope results were unreliable.

243. *Shortcomings of Jerini PepSpot Analysis and Discontinuous Epitopes:*
MorphoSys and Dr. Tesar knew that peptide array techniques (such as the PepSpot assay of Jerini Report 3571, underlying Figure 7) were particularly unreliable when faced with discontinuous epitopes—which Figure 7 plainly states that three of the four disclosed antibodies possess. (Jerini Report 3571 states that “[t]he epitopes for MOR03080 and MOR03100 can clearly be considered as discontinuous,” while MOR03077 “can be described as a multisegmented discontinuous epitope.” Ex. 1106 at 5.)

244. In July 2003, Dr. Tesar expressed doubts that a peptide array approach would generate usable data for the four MorphoSys anti-CD38 antibodies at all (“we have to expect that none of the antibodies will react with the overlapping peptides”), because the antibodies had conformational epitopes:

On a whole, we would gladly characterize 4 antibodies - but we have to expect that none of the antibodies will react with the overlapping peptides because there is a

conformational epitope (according to Jerini only 50% chance of capturing it with this “linear” technique...). It is my opinion that we should actually connect a western blot assay in advance so that we

Ex. 1051; *see also* Tesar Dep. Tr. at 163:7-13 (discussing Jerini as “overlapping peptides”).

245. Dr. Tesar also stated in an August 18, 2011 email to Dr. Stefan Steidl, then Director of Pharmacology at MorphoSys, that “[d]iscontinuing epitopes are certainly much more difficult to determine than linear ones.” Ex. 1173.

246. Yet when shown his 2003 statement at deposition, Dr. Tesar testified “My God. How did I come to that judgment? I don’t get the rationale behind this sentence anymore. I’m missing details, so I don’t know how I came up to this conclusion.” Tesar Dep. Tr. at 165:19-166:7.

247. At deposition, Dr. Steidl agreed that for “some” antibodies, “one of the drawbacks of this type of experiment is that it’s less reliable with respect to discontinuous epitopes than it is for linear epitopes.” Steidl Dep. Tr. at 174:24-175:14.

248. *Other Approaches to Identify Epitopes:* Apart from the Jerini peptide array mapping studies, MorphoSys also undertook a variety of other experimental approaches to identify the epitopes of the four antibodies disclosed in the Patents-in-Suit—none of which gave results consistent with Figure 7, and none of which were reported to the Patent Office.

249. *Fc ELISA Mapping:* In September 2002, MorphoSys conducted ELISA assays with Fc-fusion proteins bearing various regions of CD38 protein. At deposition, Dr. Tesar testified that “ELISA is one way of looking at epitopes. There are many others out [sic], but it’s a good start, as I said, to look at ELISA.” Tesar Dep. Tr. at 93:6-16.

250. Using the ELISA technique, MorphoSys discovered and reported in its presentations that every one of its anti-human CD38 antibody Fabs—including the four ultimately disclosed in the Patents-in-Suit—recognized “exclusively epitope aa 273-300” in the prior art C-terminal region of CD38. Ex. 1050 at 12.

251. On July 15, 2003, Dr. Tesar stated that, with the help of different EST-constructs (covering regions 45-213; 45-273 and 45-300 of CD38), he had “already establish[ed]” that MorphoSys’s four anti-CD38 antibodies react exclusively with the full-length construct 45-300. Ex. 1051. Dr. Tesar confirmed this was a strong indication that, like the prior art anti-CD38

antibodies, the epitope of MorphoSys's four anti-CD38 antibodies lie only in the C-terminal range:

If necessary, we can limit ourselves to the amino acids 200-300 because all of the previously mapped out epitopes of published anti-CD38 antibodies fall in this range. With the help of different EST-constructs (aa 45-213; 45-273 and aa 45-300) we were able to already establish that our antibodies react exclusively with the construct aa 45-300, - this is a strong indication (but unfortunately not certain!) that the epitope of our own CD38 antibody also lie only in this C-terminal range. Maybe we will still get a clue about the epitope from our collaboration with Prof. Malavasi (he is currently conducting competition studies with the already mapped antibodies and our 4 candidates) ... otherwise, I would recommend getting started with the complete length (aa45-300).

252. At deposition, Dr. Tesar confirmed this conclusion in his 2003 email, stating that the antibodies "were all binding in the C terminal range" and that "[t]his conclusion is correct." Tesar Dep. Tr. at 168:14-169:2.

253. These Fc ELISA results directly conflict with Jerini Report 3571 and Figure 7 of the Patents-in-Suit, and were not reported to the Patent Office during prosecution of the '746 Patent.

254. *Dr. Malavasi's Competitive Binding:* In or around September 2003, MorphoSys employees, including Drs. Tesar and Steidl, enlisted Dr. Fabio Malavasi of the University of Torino to perform competition assays with the four antibodies disclosed in the Patents-in-Suit. See Ex. 1052. In these studies, multiple antibodies compete to bind a given antigen; when antibodies compete with one another for binding, this can mean that they share the same epitope. See Urban Dep. Tr. at 282:9-18. Dr. Tesar testified that Dr. Malavasi was "an expert" in the CD38 field. Tesar Dep. Tr. at 72:1-17.

255. These experiments revealed that all four MorphoSys antibodies competed with one another; that MOR03080 and prior-art chOKT10 competed with one another 70%; and that MOR03079 competed 100% with several known prior art antibodies, including IB4, IB6, HB7, AT13/5, and AT2. See Ex. 1052. At deposition, Dr. Tesar testified that the 70% competition between MOR03080 and OKT10 might merit including another epitope call for MOR03080: "So

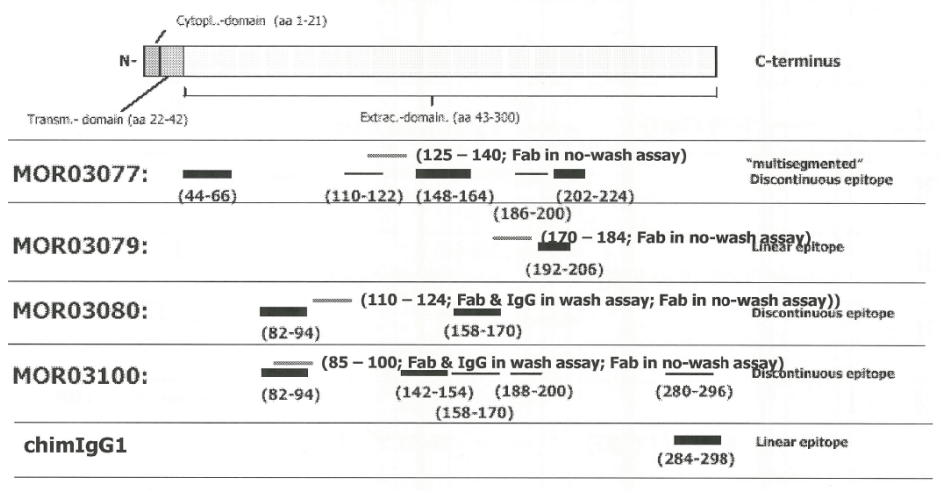
it says, ‘70 percent.’ We have to go really back in the reports to see whether it makes sense or not to – to add another bar.” Tesar Dep. Tr. at 222:11-14. Not least in terms of competition between MOR03080 and OKT10, these results directly conflict with Jerini Report 3571 and Figure 7 of the Patents-in-Suit, and were never reported to the Patent Office.

256. *NMI “MapART” Peptide Array Mapping Results:* In January 2004, MorphoSys engaged the Natural and Medical Sciences Institute at the University of Tuebingen (“NMI”) to perform epitope mapping tests to determine the epitopes of the four disclosed antibodies in the Patents-in-Suit (MOR03077, MOR03079, MOR03080, and MOR03100) using NMI’s peptide array technique, called MapART. These NMI peptide array results were reported in a MorphoSys figure titled “MapB (Jerini/NMI)” which overlaid the Jerini Report 3571 peptide array results reported in the patents at Figure 7 with the NMI peptide array results. Ex. 1056.

257. The results were contradictory. For example, NMI reported MOR03079 binding to aa 170-184, which directly contradicted its predicted epitope of 192-206 in Jerini Report 3571 and Figure 7; and NMI also reported MOR03080 binding to aa 110-124, as opposed to its Jerini 3571 Report / Figure 7 epitope of positions 82-94 and 158-170, as shown in the MorphoSys figure below:

morphosys

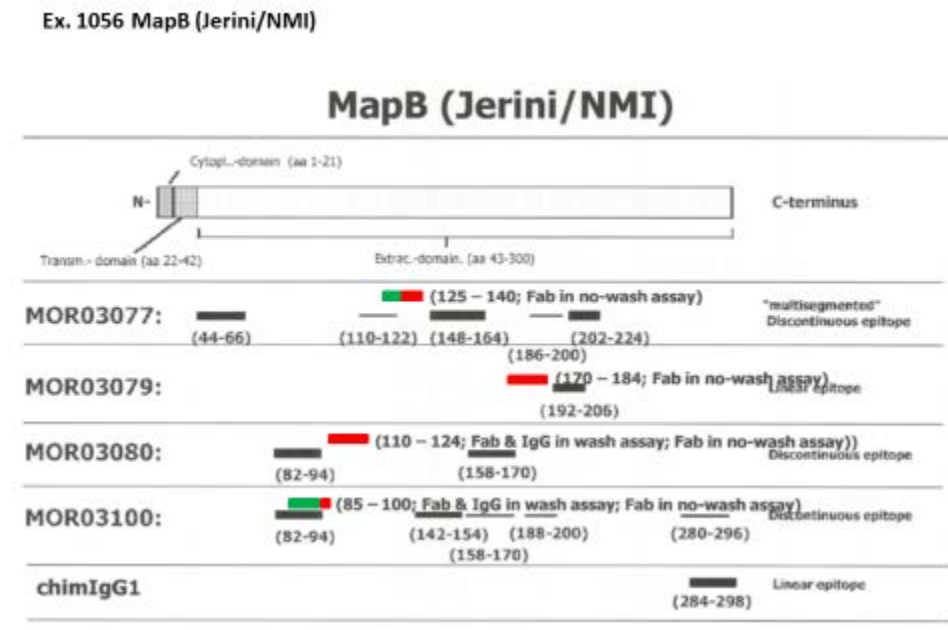
MapB (Jerini/NMI)



[Ex. 1056.](#)

[258.](#) The same MorphoSys figure is reproduced below with the contradictory NMI

[MapB epitope results highlighted in color \(green for overlapping, red for contradictory\):](#)



[Ex. 1056 \(color highlights added to show NMI data\).](#)

259. These NMI MapART results directly conflict with Jerini Report 3571 and Figure 7 of the Patents-in-Suit, as confirmed by Dr. Ralf Ostendorp, Head of Protein Sciences at MorphoSys, at deposition: “So as I said, the two lines marked with peptide mapping Jerini and peptide mapping NMI do not represent any overlaps of the marked regions.” Ostendorp Dep. Tr. at 317:1-13 (discussing MOR03077). MorphoSys also withheld these results from the Patent Office.

260. *NMI EST Epitope Mapping Results:* In June 2005, MorphoSys engaged NMI to employ another approach for epitope mapping of the four disclosed antibodies in the Patents-in-Suit, namely assaying their binding to expressed sequence tags (“ESTs”) of various portions of the CD38 amino acid sequence. On June 22, 2005, NMI generated a report of this EST-based epitope mapping experiment. See Ex. 1055. NMI reported “strong and significant interactions” for eight of 13 antibodies tested. Based on its interaction with two particular ESTs, the “minimal epitope region” for MOR03080 was reported to be amino acids 164-300 of CD38; no interaction with ESTs covering the 82-94 region was found. Dr. Ostendorp confirmed this finding at deposition, stating that “the table and the report states that the deduced minimal region for MOR03080 would be amino acids **164-300.**” Ostendorp Dep. Tr. at 288:23-289:17.

261. The NMI EST report explicitly compares its results to Jerini Report 3571 (the basis for Figure 7), stating that “[t]he results of epitope mapping on peptide level by Jerini AG and EST mapping approach by NMI are rather contradictory.”

5.6. Comparison with data from commercial contractor

Tables S2 (Supplementary data) is the attempt to summarise all of the NMI data for antigen B (EST mappings and peptide mappings) and to compare them with the data that were generated by Jerini AG, Berlin. However, this table has to be taken with caution since interpretation of data is not always clear without ambiguity.

Five antibodies (IgG molecules) had been analysed with epitope mappings by Jerini AG: MOR03077, MOR03079, MOR03080, MOR03100, and chimOKT10. The results of epitope mapping on peptide level by Jerini AG and EST mapping approach by NMI are rather contradictory.

Ex. 1055 at 30.

262. A supplementary table in the NMI report explicitly compares the results of the Jerini 3571 Report peptide mapping (patent Figure 7) with NMI EST mapping and NMI MapART peptide mapping. The predicted epitope results for antibody MOR03080 differ between all three approaches.

No.	Name	NMI EST mapping Wash and no-wash assays	NMI EST mapping Capture assays	NMI MapART MapB Peptide mapping	Jerini AG Peptide mapping
ab 1	MOR03077	no significant signal	no significant signal	no significant signal	not tested
ab 2	MOR03079	no significant signal	no significant signal	no significant signal	not tested
ab 3	MOR03080	139-300, 164-300	no significant signal	108-122 (1 peptide)	not tested
ab 4	MOR03100	139-300, 164-300, 232-282, (247-300)	139-300, 164-300, 232-282, (247-300)	84-98 (1 peptide)	not tested
ab 5	MOR03077	no significant signal	no significant signal	116-138, 176-198, 260-290 (3-5 peptides consensus each)	multisegmented discont: 44-66, 148-164, 202-224
ab 6	MOR03079	no significant signal	high background with all ESTs	high background with all peptides	linear: 194-204 (3 peptides consensus)
ab 7	MOR03080	139-300, 164-300	no significant signal	108-122 (1 peptide)	discont: 82-94, 158-170 (1 peptide each)
ab 8	MOR03100	139-300, 164-300, 232-282, (247-300)	139-300, 164-300, 232-282	several disperse signals	discont: 82-94, 142-154, 280-292 (pep each) (weak: 158-170, 176-186, 186-200 pep each)
ab 9	chimigG1	139-300, 164-300, (247-300)	no significant signal	several disperse signals	linear: 284-296 (2 peptides consensus)
ab 10	OKT10	no significant signal	no significant signal	not tested	not tested
ab 11	IB4	139-300, 164-300	139-300, 164-300	not tested	not tested
ab 12	HB7	139-300, 164-300	139-300, 164-300	not tested	not tested
ab 13	T16	139-300, 164-300	139-300, 164-300	not tested	not tested

Table S2: Comparison of results from NMI EST mapping and peptide mapping with results from Jerini AG.

Numbers indicate amino acid positions. Weak and/or uncertain interactions are printed in parentheses. Note that ab10, ab11, ab12, and ab13 were not tested in peptide mappings so far, since they were provided recently. **Important note:** Not all of the peptide interactions that were detected by Jerini AG are shown in this table, only the strongest interactions (selection by NMI) were taken.

Ex. 1055 at 34 (highlighting added to show MOR03080 results).

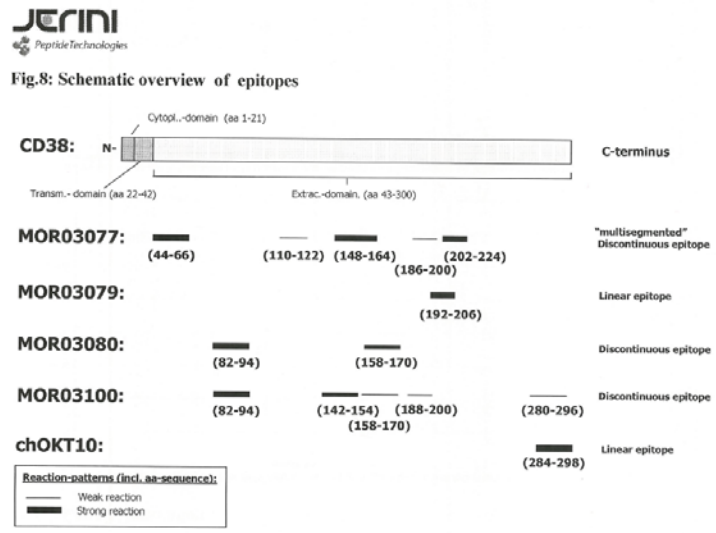
263. MorphoSys also withheld these results from the Patent Office.

264. In sum, even before the Jerini Replitope Report revealed contradictory epitope mapping data for MOR03080, MorphoSys already possessed ample epitope mapping data that directly conflicted with Jerini Report 3571 and Figure 7 of the Patents-in-Suit—neither this data, nor the Jerini Replitope Report, was ever submitted to the Patent Office, and no attempt was made to update Figure 7 to reflect these discrepancies. This despite the fact that Figure 7 was the sole support for the epitope binding claims in the asserted MorphoSys patents.

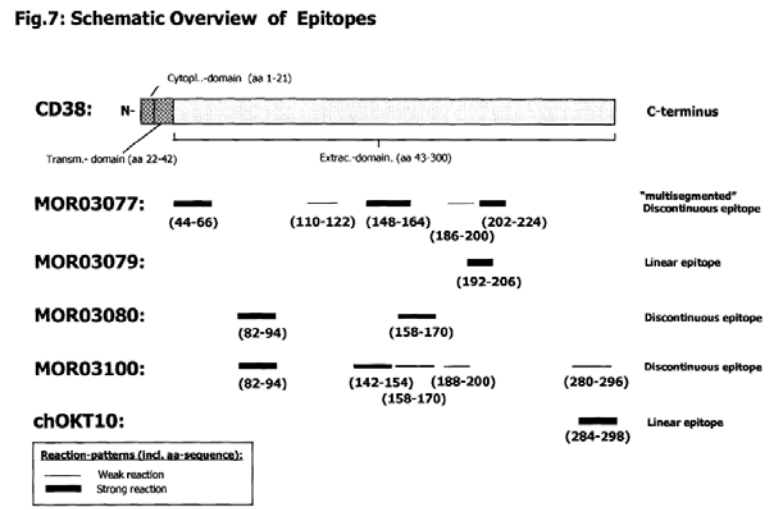
Materiality of Contradictory Epitope Data

265. Dr. Tesar testified at deposition that the reason he was interested in knowing the epitopes for MorphoSys anti-CD38 antibodies was for patent applications. See Tesar Dep. Tr. at 147:16-148:5.

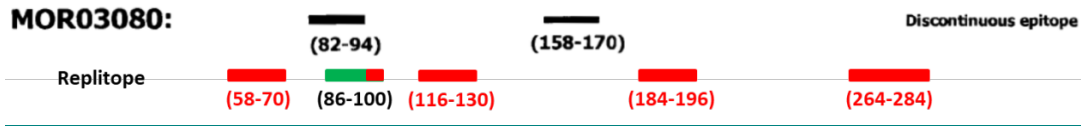
266. Figure 7 is an exact duplicate of a diagram in the Jerini 3571 Report. Compare the figure as it appears in Jerini Report 3571 (Ex. 1106 Fig. 8 at 16):



with Figure 7 of the Patents-in-Suit:



267. In submitting this figure to the Patent Office and during the many years of active prosecution that ensued, no modifications whatsoever were made to Figure 7 to account for the later, contradictory Jerini Replitope Report—which reported MOR03080 binding to a completely different epitope, shown in color below:



268. Similarly, no modifications were made to Figure 7 to account for any of the other contradictory results in MorphoSys’s possession, including NMI MapART peptide array results, NMI EST results, Fc fusion ELISA results, or Prof. Malavasi’s competitive binding experiments.

269. During prosecution of the ’746 Patent, MorphoSys relied exclusively on Figure 7 and its results—taken entirely from the initial Jerini 3571 Report, and never revised in light of the later, contradictory Jerini Replitope results—as the sole written description support for its claimed epitope ranges. This repeated reliance and assertion of Fig. 7 as exemplary of the claimed epitopes constitutes not merely a withholding of material information but material misrepresentation, without which the examiner would not have allowed the claims of the ’746 Patent.

270. For example, on October 18, 2011—nearly five years after receiving the contradictory Jerini Replitope Report—MorphoSys submitted new ’746 claims 142-148, directed to, *e.g.*, “[a]n isolated antibody or antibody fragment thereof containing an antigen-binding region... which specifically binds within amino acids 82-94 or 158-170 of CD38” (i.e., the original, unrevised epitope for MOR03080, directly contradicted by the Jerini Replitope Report). In its accompanying applicant remarks, MorphoSys directed the Examiner as follows: “Support for these claims can be found, for example, at Figure 7 and ¶¶ 0136-0138 of the published specification.” ’746 Patent file history, Oct. 18, 2011 Response to Non-Final Rejection at 8. The paragraphs of the published specification (¶¶ 0136-0138) to which MorphoSys directed the Examiner repeat only those same Figure 7 results. Also in October 2011, Mr. Wiegel attended a telephonic interview during which the Examiner and MorphoSys’s representatives discussed

epitopes for, e.g., then-pending claim 101 (directed to epitopes comprising 44-66, **82-94**, 142-154, 148-164, **158-170**, or 192-206 of CD38) and compared these with prior art epitopes. See '746 Patent file history, Oct. 14, 2011 Applicant Initiated Interview Summary at 2.

271. During prosecution of the '061 Patent, MorphoSys continued to tie claims explicitly to the epitopes identified in Figure 7, particularly MOR03080, and to misrepresent Figure 7 as exemplifying the claims. For example, Mr. Wiegel signed and submitted an Amendment on June 17, 2015, again presenting claims based entirely and exclusively on the purported MOR03080 epitope shown in Figure 7 (see, e.g., then-pending claim 30, directed to binding “an epitope of CD38 that contains one or more amino acid residues within **82-94** and **158-170**” of CD38). See '061 Patent file history, June 17, 2015 Response to Final Rejection at 2. In this Amendment, Mr. Wiegel stated that “the Examiner acknowledged that the specification provides support for the epitopes recited in claims 28-31.” *Id.* at 5.

272. Likewise during prosecution of the '590 Patent, MorphoSys again sought claims directed to the MOR03080 epitope regions 82-94 and 158-170. First, Mr. Wiegel signed and submitted a Dec. 4, 2015 preliminary amendment, in which MorphoSys sought claim 85 (including residues **82-94** and **158-170** of CD38), claim 109 (directed to an antibody “that binds to a CD38 peptide consisting of amino acid residues **82-94** of CD38”), and claim 110 (directed to an antibody that “binds to a CD38 peptide consisting of amino acid residues **158-170** of CD38), all of which are based on the Figure 7 epitope for MOR03080. See '590 Patent file history, Dec. 4, 2015 Preliminary Amendment. Next, in a Feb. 4, 2016 amendment again signed and submitted by Mr. Wiegel, MorphoSys sought claim 115 (including residues **82-94** and **158-170** of CD38), claim 140 (directed to an antibody “that binds to a CD38 peptide of amino acid residues **82-94** of CD38”), and claim 141 (directed to an antibody that “binds to a CD38 peptide

of amino acid residues **158-170** of CD38). See '590 Patent file history, Feb. 4, 2016 Preliminary Amendment. MorphoSys and Mr. Wiegel again pointed the Examiner to "Figure 7 and paragraph [0146]" of the specification as support for its claims to antibodies binding to "CQSVWDAFKGAFI" and "TWCGEFNTSKINY" (positions **82-94** and **158-170** of CD38, which correspond to the epitope shown in Figure 7 for MOR03080). See '590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 15. Alleging that Figure 7 supported the claims despite knowledge of contradictory results that undermine the accuracy of the entire figure amounts to a material misrepresentation.

273. Thus, although the '590 Patent as issued does not include claims drawn specifically to the MOR03080 epitope ranges 82-94 and 158-170, such claims were twice sought during prosecution—and for these, MorphoSys directed the examiner to the same Figure 7 data for support. See '590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 15.

274. Moreover, the results MorphoSys withheld from the Patent Office not only directly contradict the MOR03080 epitope in Figure 7, but also demonstrate the unreliability of Figure 7 generally, and thus are material to the '590 Patent's issued claims as well. To prepare Figure 7, Jerini tested all four antibodies (MOR03077, MOR03079, MOR03080, and MOR03100) in the same experiment and under the same conditions, with their data collected and interpreted in the same way. (MOR03077 initially failed to provide usable signal, and had to be re-assessed using direct labeling of secondary antibody.) The Jerini Replitope Report laid bare the shortcomings of this initial Figure 7 approach: Jerini later re-tested MOR03080 and reported wholly contradictory epitope results. This later Jerini Replitope study was performed with "good" signal to noise ratio (>100:1) and no secondary antibody false positives, on an array platform Jerini still offers today. Unlike the Figure 7 study, the later Jerini Replitope study was

done in triplicate. It was declared by Jerini to be “evaluable” (see Steidl Dep. Tr. at 251:17-252; Ex. 1173), by a “state of the art” company (see Tesar Dep. Tr. at 166:17-167:14 (“Jerini is state of the art to map epitopes”)) and its results—both for MOR03080 and for MOR03087, MorphoSys’s ultimate clinical lead candidate—were used without reservation or caveat in company presentations circulated to senior management, shared with third-party collaborator Celgene, and included in other third-party presentations as accurate and authoritative.

275. Of the four antibodies disclosed in the Patents-in-Suit, only MOR03080 was later shown by Jerini to possess a different epitope—but MOR03080 was the only one of those four antibodies that Jerini actually tested again. By exposing shortcomings in the original data for the only antibody that was re-tested, the Jerini Replitope Report also calls into question Figure 7 epitope results for antibodies MOR03077, MOR03079, and MOR03100.

276. Because the withheld data undermines Figure 7 altogether, and the claims of the ’590 Patent draw their (alleged and misrepresented) support from Figure 7, the ’590 Patent is unenforceable for inequitable conduct committed during prosecution of the ’590 Patent and related applications. Furthermore, this inequitable conduct persisted and was not cured in any of the Patents-in-Suit. There are three requirements that a patentee must meet to cure inequitable conduct in a patent. The first requirement to be met by an applicant, aware of misrepresentation in the prosecution of his application and desiring to overcome it, is that he expressly advise the Patent Office of its existence, stating specifically wherein it resides. The second requirement is that, if the misrepresentation is of one or more facts, the Patent Office be advised what the actual facts are, the applicant making it clear that further examination in light thereof may be required if any Patent Office action has been based on the misrepresentation. Finally, on the basis of the

new and factually accurate record, the applicant must establish patentability of the claimed subject matter. As detailed below, MorphoSys did none of these.

277. MorphoSys did nothing to cure the deficiencies of Figure 7 during prosecution of any Patent-in-Suit, including the '590 Patent which issued in fall 2017. Rather, it continued its pattern of withholding information and materially misrepresenting Figure 7 as an accurate representation of exemplified antibody epitopes. As discussed above, Jerini's initial inability to reproduce MOR03080's epitope results, and later reporting of reliable and entirely contradictory data for this antibody, thoroughly undermines the Figure 7 data for all antibodies—not just MOR03080. Although MorphoSys knew that the Jerini Replitope Report contradicted Figure 7 and undercut its validity, it nonetheless failed to advise the Patent Office of the Jerini Replitope Report, its possession of other data contradicting its prior representation, or the unreliable epitope maps in Figure 7. MorphoSys never informed the Patent Office of any issue raised by the Jerini Replitope Report, let alone made the Patent Office aware that further examination might be required in light of it. MorphoSys thus did not establish patentability of the claims on a factually accurate record. MorphoSys withheld and misrepresented material information not just during prosecution of the '746 and '061 Patents but in the '590 Patent as well; its inequitable conduct was not remedied and infected all Patents-in-Suit.

278. Even in this litigation, MorphoSys's own legal arguments emphasize the materiality of Figure 7. In its claim construction briefing, MorphoSys argued that the term "specifically binds within" of the '746 Patent should be broadly construed and not limited to binding *only* within the amino acid regions identified in the claims. Again, the data MorphoSys withheld from the Patent Office not only directly contradicts the Figure 7 epitope for MOR03080, but also demonstrates the utter unreliability of Figure 7 generally and thus calls into

question the epitope results for antibodies MOR03077, MOR03079, and MOR03100 as well. Yet MorphoSys relied on that very Figure 7 epitope mapping data to argue that because antibodies such as MOR03077 and MOR03100 bind both within the claimed region of 44-206 and also outside that region (i.e., at 207-224 for MOR03077 and 280-298 for MOR03100), MorphoSys was entitled to a broad construction of this claim term—without ever mentioning that the data for Figure 7 was unreliable or that it had in its possession data flatly contradicting the purported epitope of MOR03080. See D.I. 82, Dec. 27, 2016 Opening Brief ISO MorphoSys Claim Constructions of '746 Patent, at 14.

279. The Figure 7 results are the sole written description support for the MorphoSys epitope claims. Without it, there is no basis for the Patent Office to have issued these claims, particularly claims based directly on the alleged binding site of MOR03080. In sum, the Patent Office would not have allowed claims directed to the epitopes shown in Figure 7 had MorphoSys actually made the Examiner aware of the Jerini Replitope Report or other contradictory results and admitted that Figure 7 did not actually exemplify the epitope of MOR03080.

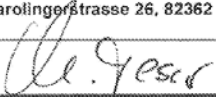
280. And as described below, MorphoSys realized this, and deliberately withheld contradictory information with intent to deceive the Patent Office. In addition, Morphosys repeatedly, deliberately and with intent to deceive misrepresented the contents of Figure 7, conveying that it accurately portrayed the epitopes of antibodies that Morphosys had made despite knowing that, at the very least in the case of MOR3080, it did not.

Individuals with a Duty to Disclose Material Information to the Patent Office

281. Dr. Michael Tesar was the Associate Director of Research & Development at MorphoSys from 1998 to 2012 and was project lead of the anti-CD38 antibody project. Dr. Tesar is a named inventor of the '746, '061, and '590 Patents. Dr. Tesar signed an oath in

connection with his inventorship, acknowledging his “duty to disclose to the Patent Office all information known ... to be material to patentability as defined in 37 CFR 1.56.”

I (we) hereby state that I (we) have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above. I (we) acknowledge the duty to disclose to the Patent Office all information known by me to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information known by me which became available between the filing date of the prior application and the national or Patent Cooperation Treaty (PCT) or international filing date of the continuation-in-part application.

First Inventor:	<input type="checkbox"/> A petition has been filed for this unsigned inventor		
Name:	Michael TESAR		
Citizenship:	Germany		
Mailing Address:	Karolingerstrasse 26, 82362 Weilheim, Germany		
Inventor's Signature:		Date	July 30, 2009

'746 Patent file history, oath.

282. Dr. Tesar made clear that he *knew* he had a responsibility to report any potentially-reliable data to the Patent Office by testifying under oath that he did not communicate Jerini Report 8190 to the Patent Office because it had a “technical issue” and it was a “decision for the patent attorneys to – to decide whether these should be sent or not.” Tesar Dep. Tr. at 267:23-269:23.

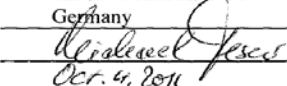
283. Dr. Tesar also testified at deposition that his “duty as a scientist was to perform these assays, and these assays and the results thereof were basically the basis for this patent.” Tesar Dep. Tr. at 226:12-15. Dr. Tesar also testified that he may have drafted the patent itself, and in any event it was his “duty as a scientist to look through the results [to confirm] if they are accurate,” and also that he “work[ed] closely together with patent attorneys” on the project. Tesar Dep. Tr. at 228:10-230:4. As an inventor and an individual associated with the filing and prosecution of the patent applications, Dr. Tesar unquestionably had a duty to disclose all information material to patentability.

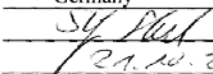
284. Dr. Stefan Steidl is now Head of Preclinical Development at MorphoSys and has worked at MorphoSys since 2001. On information and belief, Dr. Steidl was also involved in the prosecution of the '746, '061 and/or '590 Patents. Dr. Steidl contributed experimental work to the Patents-in-Suit and reviewed and edited the applications. See Steidl Dep. Tr. at 103:13-20 ("So I contributed some of the experiments that led to that ['746] patent. And – and I do recall also proofreading or reading the document in the – in the drafting state.") MorphoSys's privilege log has identified communications and documents wherein Dr. Steidl was involved in emails "requesting and providing legal advice from counsel regarding patent prosecution," "providing information for the purpose of rendering legal advice regarding patent office declarations," "regarding drafting response to office action," and reports "reflecting a request for legal advice from counsel regarding patent prosecution." See, e.g., privilege log entries for: Jan. 22, 2004 report authored by Steidl reflecting a request for legal advice from counsel regarding patent prosecution; Feb. 1, 2004 Email from Urban to Steidl requesting and providing legal advice from counsel regarding patent prosecution; Feb. 19, 2004 Email from Tesar to Steidl requesting information for the purpose of obtaining legal advice regarding patent prosecution; July 3, 2012 Email from Wiegel to Steidl regarding drafting response to office action; Sept. 29, 2014 Email from Steidl to Wiegel providing information for the purpose of rendering legal advice regarding patent office action declarations.

285. Dr. Steidl also was a named inventor on the '061 Patent, and signed an oath and declaration on Nov. 22, 2011; he was removed as an inventor on Oct. 5, 2015 and replaced with Ute Jaeger in light of claim amendments. See '061 Patent file history, Nov. 22, 2011 Oath, and Oct. 5, 2015 Request Under Rule 48 to Correct Inventorship. In the executed Oath and Declaration, both Dr. Steidl and Dr. Tesar acknowledged "the duty to disclose to the U.S. Patent

and Trademark Office all information known ... to be material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56”:

THAT I acknowledge the duty to disclose to the U.S. Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

Name of first inventor	Michael TESAR
Residence	Weilheim i. Ob., Germany
Citizenship Country	Germany
Post Office Address	Karolingerstrasse 26 82362 Weilheim i. Ob. Germany
Inventor's signature	
Date	Oct. 4, 2011

Name of second inventor	Stefan STEIDL
Residence	München, Germany
Citizenship Country	Germany
Post Office Address	Planeggerstr. 37 81241 München Germany
Inventor's signature	
Date	21.10.2011

286. As such, as an individual associated with the filing and prosecution of the patent applications, Dr. Steidl unquestionably also had a duty to disclose information material to patentability.

287. Dr. Marlies Sproll was Chief Scientific Officer at MorphoSys during the relevant time period and has worked at MorphoSys since 2000. See Sproll Dep. Tr. at 15:24-16:1; 16:21-17:10. On information and belief, Dr. Sproll was also involved in the prosecution of the '746, '061 and/or '590 Patents. MorphoSys's privilege log has identified communications and documents wherein Dr. Sproll was involved in emails concerning “patent filings,” “patent application materials,” “intellectual property protection,” “intellectual property evaluation.” See, e.g., privilege log entries for: Dec. 6, 2010 Email from Sproll to Hutter containing legal advice from counsel regarding patent application filings; Sept. 1, 2011 Email from Sproll to Hutter requesting advice regarding patent prosecution.

288. Dr. Sproll also testified during her deposition that she was in charge of supervising the Intellectual Property Department at MorphoSys when she was Chief Scientific Officer. See Sproll Dep. Tr. at 28:9-20 (“Q: What are your responsibilities with respect to intellectual property? . . . The witness: -- yeah. It was kind of the line manager function for the IP department.”); id. at 28:22-29:11 (“Q. Are you involved in overseeing the filing of the patents by MorphoSys? . . . THE WITNESS: Supervising the department.”) As such, as an individual associated with the filing and prosecution of the patent applications, Dr. Sproll also had a duty to disclose information material to patentability.

289. On information and belief, Paul Wiegel was a patent lawyer at MorphoSys from August 2008 through November 2016. Mr. Wiegel actively prosecuted the Patents-in-Suit. For example, he attended a telephonic interview during which the Examiner and MorphoSys’s representatives discussed epitopes for, e.g., then-pending claim 101 (directed to epitopes comprising 44-66, **82-94**, 142-154, 148-164, **158-170**, or 192-206 of CD38) and compared these with prior art epitopes. See ’746 Patent file history, Oct. 14, 2011 Applicant-Initiated Interview Summary at 2. During prosecution of the ’061 Patent, Mr. Wiegel signed and submitted an Amendment on June 17, 2015, again presenting claims based entirely and exclusively on the purported MOR03080 epitope shown in Figure 7 (see, e.g., then-pending claim 30, directed to binding “an epitope of CD38 that contains one or more amino acid residues within **82-94** and **158-170**” of CD38). See ’061 Patent file history, June 17, 2015 Response after Final Rejection at 2. Likewise during prosecution of the ’590 Patent, Mr. Wiegel signed and submitted a Dec. 4, 2015 preliminary amendment, in which MorphoSys sought claim 85 (including residues **82-94** and **158-170** of CD38), claim 109 (directed to an antibody “that binds to a CD38 peptide consisting of amino acid residues **82-94** of CD38”), and claim 110 (directed to an antibody that

“binds to a CD38 peptide consisting of amino acid residues **158-170** of CD38), all of which are based on the Figure 7 epitope for MOR03080. See ’590 Patent file history, Dec. 4, 2015 Preliminary Amendment. Next, in a February 4, 2016 amendment again signed and submitted by Mr. Wiegel, MorphoSys sought claim 115 (including residues **82-94** and **158-170** of CD38), claim 140 (directed to an antibody “that binds to a CD38 peptide of amino acid residues **82-94** of CD38”), and claim 141 (directed to an antibody that “binds to a CD38 peptide of amino acid residues **158-170** of CD38). See ’590 Patent file history, Feb. 4, 2016 Preliminary Amendment. MorphoSys and Mr. Wiegel again pointed the Examiner to “Figure 7 and paragraph [0146]” of the specification as support for its claims to antibodies binding to “CQSVWDAFKGAFI” and “TWCGEFNTSKINY” (positions **82-94** and **158-170** of CD38, which correspond to the epitope shown in Figure 7 for MOR03080). See ’590 Patent file history, Aug. 23, 2016 Response to Non-Final Rejection at 15. Mr. Wiegel’s mailing address is listed on the ’746 Patent’s November 2, 2015 Certificate of Correction, and the ’061 Patent’s March 31, 2016 Certificate of Correction; Mr. Wiegel signed and submitted the ’590 Patent’s December 4, 2015 Statement to Support Filing and Submission in Accordance with 37 C.F.R. §§ 1.821-1.825, as well as Information Disclosure Statements for the ’590 Patent (Dec. 4, 2015).

290. Mr. Wiegel also appears frequently on MorphoSys’s privilege log in this case in connection with patent prosecution activities. For example, MorphoSys’s privilege log has identified communications and documents wherein Mr. Wiegel was involved in emails “regarding review of draft patent prosecution documents” and “providing legal advice from counsel regarding patent prosecution claims,” as well as patent prosecution documents “regarding draft patent claims” and “regarding office action response.” See, e.g., privilege log entries for: Apr. 14, 2009 Email from Wiegel to Thellman, Steidl, and Leclair providing legal

advice from counsel regarding patent prosecution claims; Aug. 11, 2010 Email from Wiegel to Gorgey reflecting legal advice from counsel regarding review of draft patent prosecution documents; Jan. 3, 2011 document authored by Wiegel regarding office action response; Apr. 16, 2013 patent prosecution document authored by Wiegel regarding patent prosecution; Apr. 30, 2014 patent prosecution document authored by Wiegel regarding draft patent claims.

Failure to Disclose the Contradictory Results by Individuals Having a Duty to Do So

291. Dr. Tesar was aware of the contradictory ELISA Fc-fusion epitope mapping results no later than Dec. 17, 2002, when the data was presented in an R&D meeting. See Ex. 1050 at slide 12. On July 15, 2003, Dr. Tesar emailed colleagues a summary of this data, explaining that “we were able to already establish that our antibodies react exclusively with the construct aa 45-400,” yielding a “strong indication” that the epitope lie “only in this C-terminal range.” Ex. 1051. The application that ultimately issued as the ’746 Patent had not yet been filed at this time.

292. Drs. Tesar and Steidl were aware of the contradictory Malavasi competitive binding experiment epitope mapping results no later than Sept. 17, 2003, when the data was presented in a teleconference. See Ex. 1052. On November 4, 2003, the results were presented in an R&D meeting, alongside the Jerini #3571 peptide array results. See Ex. 1053 at slides 19-24. The application that ultimately issued as the ’746 Patent had not yet been filed at this time.

293. Dr. Tesar was aware of the contradictory NMI MapART peptide array mapping results no later than November 10, 2004, when Dr. Ostendorp emailed him an overlaid figure comparing NMI’s peptide array results with those from Jerini’s #3571 Report, including contradictory, non-overlapping epitope identifications for MOR03079 and MOR03080. See Ex.

1056. The non-provisional application that ultimately issued as the '746 Patent had not yet been filed at this time.

294. Dr. Tesar was aware of the contradictory NMI EST epitope mapping results dated June 22, 2005 no later than July 15, 2005, when Dr. Ostendorp emailed them as an attachment. See MSYS_01711020. Dr. Ostendorp told Tesar that while the NMI and Jerini data lined up for ICAM (another antigen tested), the results for the CD38 epitope mapping were contradictory: “[T]here will be another follow-up conference call about this, because the data situation is really complex and we are still not really combining the data sets of Jerini with the peptide and EST data from NMI (by contrast, we have a very clear picture for ICAM).” Dr. Ostendorp also wrote to Tesar “[f]eel free to stop by anytime – we need to talk about patent supplements anyway.” MSYS_01711020.

295. The NMI EST report included a statement in the report that NMI and Jerini results were “rather contradictory” and a supplementary table listing differing epitope identifications for, among others, MOR03080. Ex. 1055. The application that ultimately issued as the '746 Patent had recently been filed at this time; MorphoSys would still file new epitope-based claims relying solely on Figure 7 over seven years after this, without ever communicating the contradictory NMI EST epitope mapping results to the Patent Office.

296. Dr. Tesar was aware of the failed Jerini 8190 Report epitope mapping results no later than December 1, 2006, when Thomas Ast of Jerini emailed the report as an attachment. See Ex. 1172. Dr. Tesar emailed others at MorphoSys to discuss the results and next steps, stating that “Jerini is now going to try alternatives (glass-slides, direct labelling) in order to get it to work.” Ex. 1058.

297. Dr. Tesar was aware of the contradictory Jerini Replitope Report epitope mapping results no later than December 1, 2006, when Thomas Ast emailed them as an attachment. See Ex. 1172. This report included results performed in triplicate (unlike Jerini Report 3571), with “good” signal to noise ratio, no false positives from secondary antibodies, and included epitope results for MOR03087, as well as epitope results for MOR03080 that contradicted the earlier Jerini 3571 Report. MorphoSys was actively prosecuting the ’746 Patent application at this time; MorphoSys would file new epitope-based claims relying solely on Figure 7 nearly six years after this, without ever communicating the contradictory results of the Jerini Replitope Report to the Patent Office.

298. Dr. Steidl was aware of the contradictory Jerini Replitope Report results at the latest by 2009. In November 2009, Dr. Steidl sent an email, subject “MOR202 Offsite,” attaching a December 2008 slide presentation that reported both the MOR03080 and MOR03087 epitopes using data drawn from the Jerini Replitope Report. See Ex. 1073 at slide 20. And in August 2011, Dr. Tesar sent Dr. Steidl an email, subject “Epitope mappings....CD38,” (Ex. 1173) stating that “further mapping experiment using Replitope Peptide Microarray” was done, and this experiment “did not have the difficulties.” Dr. Tesar further informed Dr. Steidl in this email that there was only partial agreement between the Replitope result for MOR03080 and the epitope result from the first Jerini report.

299. Mr. Wiegel was aware of the Jerini Replitope Report at the latest by 2013. In February 2013, Mr. Wiegel sent an email, subject “MOR202 epitope,” (MSYS_01884788) attaching a slide presentation (MSYS_01884789) that reported both the MOR03080 and MOR03087 epitopes using data drawn from the Jerini Replitope Report. And on May 29, 2013, Mr. Wiegel emailed the Jerini Replitope Report itself as an attachment to third party collaborator

Celgene, stating “[p]lease find attached the summary of the MOR3080 epitope mapping.” MSYS_00575470.

300. No later than January 16, 2007—a short time after MorphoSys received the Jerini Replitope Report (see Steidl Dep. Tr. at 248:13-19), Dr. Tesar included the revised epitope results for MOR03080 and MOR03087 in a MorphoSys presentation, including the revised epitope for MOR03080 that differed from patent Figure 7. See Ex. 1123 at slide 29. This presentation was sent to MorphoSys senior management, including Dr. Sproll. Ex. 1123. A management board presentation dated February 8, 2007 also contains these revised epitope results (MSYS_00267821), and on information and belief, Dr. Sproll attended this management board presentation. MorphoSys relied upon these revised epitopes for MOR03080 and MOR03087 not just in presentations to upper management but also in presentations to the public and third-parties on many occasions. For example, on May 4, 2007, Dr. Tesar provided Dr. Sproll a poster presentation containing these revised epitopes in preparation for the 2007 American Society of Clinical Oncology conference. See MSYS_01184698; MSYS_01184699. Around the same time, Dr. Sproll also received a slide deck containing these revised epitopes from Dr. Bianca Ahrens, who was seeking Dr. Sproll’s comments prior to presenting it at a scientific conference. See MSYS_01423401. When the MorphoSys team, including Dr. Sproll, needed to inform a potential collaborator about its CD38 program, a slide deck containing these revised epitopes was the used. See MSYS_01401756. Against this backdrop, MorphoSys was actively prosecuting the ’746 Patent application at this time, and continued to file new epitope-based claims relying on and misrepresenting Figure 7 over a period of many years.

301. On information and belief, MorphoSys’s IP team, and in particular Mr. Wiegel, received Dr. Tesar’s 2007 PowerPoint presentation that included the Jerini Replitope Report data

for MOR03080 that directly contradicted patent Figure 7. One version of this file produced by MorphoSys (MSYS_00892680) bears the custodian “IP Network,” and another version (MSYS_01399771) was taken from a folder titled “Client Document\2016-03-11 - Files from Paul Wiegel\After invention.”

302. Dr. Tesar, Dr. Steidl, Dr. Sproll, and Mr. Wiegel were aware of and had knowledge of the contradictory epitope mapping data discussed in paragraphs 291-301 above, but did not submit these results to the Patent Office. Instead, the only epitope mapping results the Examiner evaluated were those on which Figure 7 is based—namely the single Jerini 3571 Report.

Intent to Deceive, and the Inequitable Conduct that Resulted in the Patents-in-Suit

303. Dr. Tesar, Dr. Steidl, Dr. Sproll, Mr. Wiegel, and other individuals associated with the filing or prosecution of the patent applications intentionally failed to disclose contradictory epitope mapping data to the Patent Office in connection with prosecution of those patents, with intent to deceive the Patent Office.

304. MorphoSys actively prosecuted one or more Patents-in-Suit over a twelve-year period, from early 2005 through late 2017. The PCT application that issued as the '746 Patent was filed on February 7, 2005, and prosecution continued for over seven years. During prosecution, MorphoSys submitted what would ultimately issue as epitope-based antibody claims in the '746 Patent on October 18, 2011, and was actively prosecuting and amending filed claims as late as March 13, 2012. The Notice of Allowance issued on April 30, 2012, and the '746 Patent itself issued on September 11, 2012. MorphoSys filed the application that ultimately issued as the '061 Patent on November 11, 2011, and the '061 Patent issued on December 1,

2015. MorphoSys filed the application that ultimately issued as the '590 Patent on December 4, 2015, and the '590 Patent issued on Sep. 12, 2017.

305. Shortly after prosecution started on the '746 Patent, on July 22, 2005, Dr. Sproll—who in 2005 became the Chief Scientific Officer of MorphoSys and whose duties included overseeing the IP department (see Sproll Dep. Tr. 28:9-20; 28:22-29:11)—sent an internal email concerning the CD38 project explicitly stating the company's unwillingness to perform “further work on the epitope mapping [of] CD38”, so as to “not compromise our already files [sic] patent application!!” Ex. 1124. Dr. Sproll's 2005 email evidences MorphoSys's specific intent to deceive the Patent Office—initially by making sure not to do follow up experiments that might contradict Figure 7:

Sender: Marlies Sproll </O=MORPHOSYS_GMBH/OU=MUENCHEN/CN=RECIPIENTS/CN=MARLISS>
Sent: Friday, July 22, 2005 8:50:36 AM
Recipient: Ralf Ostendorp <Ralf.Ostendorp@morphosys.com>; MOR AL's & GL's (R&D only) <MOR_DIS_DHsGLs@morphosys.com>; Robert Friesen <Robert.Friesen@morphosys.com>
Subject: RE: Antw: mapART

Hi Ralf,
Thanks for the info and the paper.
With regard to further work on the epitope mapping CD38:
Please keep in mind that we at first have to ensure with IP that we do not compromise our already files patent application!!
This needs tight interaction with IP and I recommend to take this up with Steve, who will be back mid August (not "only" Tanja)!!
Thanx, Marlies

306. But despite Dr. Sproll's careful admonition—which she was instructed by MorphoSys's trial counsel not to testify about at deposition, citing privilege (see Sproll Dep. Tr. at 247:1-250:18)—MorphoSys did in fact “perform further work on the epitope mapping” of its disclosed anti-CD38 antibodies when Jerini included MOR03080 as a control antibody in a later study. When this “control” did not match its own Figure 7 epitope, Jerini investigated further; the resulting Jerini Replotope Report revealed a totally different, contradictory epitope for MOR03080.

307. In other words, just as Dr. Sproll had feared in her July 22, 2005 email, contradictory results did in fact “compromise [MorphoSys's] already file[d] patent

application[.]” But the key individuals—having knowledge of these contradictory results and knowing their materiality to the pending patent applications—chose not to disclose them to the Patent Office, with the intent that the Examiner would never know about the unreliability of the Figure 7 data. These individuals concealed material information about Figure 7 even while repeatedly misrepresenting and emphasizing its importance to the Examiner and to this Court.

308. MorphoSys and the individuals having a duty to disclose, have engaged in a pattern of deliberate withholding of data from the Patent Office and misrepresentation of what results are actually exemplified in the patent specification. This is strong evidence of the specific intent to deceive the Patent Office.

309. At deposition, MorphoSys witnesses including Dr. Steidl and Dr. Tesar disparaged the reliability of the withheld reports, until confronted with contemporaneous documents supporting their reliability. The way MorphoSys’s witnesses testified at their recent depositions provides further evidence of the specific intent to deceive the Patent Office.

310. *MorphoSys witnesses testified that the Jerini 3571 Report was “state of the art” and disparaged later Jerini Reports, until confronted with contemporaneous documents:* At deposition, MorphoSys witnesses, including named inventor Dr. Tesar, 30(b)(6) designee Dr. Steidl, and other scientists personally involved in the CD38 project, consistently testified that Jerini peptide array epitope mapping was “state of the art” and a “gold standard”—so much so that replicates need not even be performed. *See, e.g.,* Tesar Dep. Tr. at 185:10-20 (“Did you feel that the [Jerini 3571] experiment had been well-performed? ... THE WITNESS: Well, feel? Feel? What does feeling mean? They told us to perform this mapping based on quality standards. They certainly had established at their company, so why shouldn’t we trust on these results?”); *see also* Ostendorp Dep. Tr. at 259:21-260:23 (“So we consider this [Jerini 3571] report as a

final report. And the final -- how should I say it? A report on a method which is widely accepted and state of the art in the community. There's no reason to doubt the results from this experiments. And the report gives an outlook of the opportunities to characterize an epitope with more position if need be. So there's for me no reason to follow up on any activities but to take these data as facts being performed and deduced from a state-of-the-art technology"); Ostendorp Dep. Tr. at 111:22-112:18 ("Q. As the head of the protein sciences group, would you expect that that [Jerini 3571, Figure 7] work had been confirmed to be reproducible? ... THE WITNESS: In general, not necessarily. If there is no reason to doubt experimental results with a well-established technology, I would not necessarily expect to reproduce each and every experiment"); Ostendorp Dep. Tr. at 323:10-13 ("there's no reason to replicate results which are solid and performed with the state-of-the-art methodology.")

311. MorphoSys's 30(b)(6) designee Dr. Steidl repeatedly testified on behalf of the company that the contradictory results of the follow-up Jerini epitope mapping reports were unreliable. See Steidl Dep. Tr. at 219:19-220:10 ("This is a depiction of this second Jerini study we asked them to do for us. And in contrast to what's stated in the report from Jerini, somebody interpreted apparently on the MorphoSys end and -- this slide and -- yes, that's what we see here"); see also id. at 213:23-214:17 ("that Jerini report concluded—because they had technical problems with the secondary antibody, that the results that they obtained were basically not robust and therefore were non-data"); id. at 227:23-228:11 ("I would like to note that the report underlying this depiction in the [Ex.] 1123 document is judged to be non-reliable"); id. at 227:12-19 ("the report itself say[s] these data are not reliable").

312. MorphoSys 30(b)(6) designee Dr. Steidl also disparaged later Jerini studies as "non-data", and called the Jerini Replitope Report an unreliable "demo report." See Steidl Dep.

Tr. at 178:25-179:5 (testifying that, aside from the Jerini 3571 Report which underlies Figure 7, “no other epitope mapping with a PepSpot technology was done that gave reliable results”).

313. When shown the Jerini Replitope Report at deposition, Dr. Steidl first attempted to discredit it by inferring an internal comparison (“very similar binding patterns”) to the failed Jerini 8190 Report. See Steidl Dep. Tr. at 242:15-245:3 (“So I would think that Jerini in itself is inconsistent, because the third bullet point is saying, ‘All primary antibodies show very similar binding patterns.’ This might well be referring to the other report, but the other report in their own words was deemed to be not valid”).

314. Only when confronted with contemporaneous documents did Dr. Steidl admit that MorphoSys had in fact requested the Jerini Replitope assay. Compare Steidl Dep. Tr. at 237:3-17 (first testifying that Jerini “offered” to provide the Jerini Replitope Report as a “‘demo report,’ whatever that means”) with Steidl Dep. Tr. at 251:6-16 (confronted with document, admitting that “it wasn’t that Jerini had done this on their own; it was something that MorphoSys had agreed should be done”).

315. When confronted with Dr. Tesar’s contemporaneous email stating that the Jerini Replitope microarray experiment did not have difficulties and was declared by Jerini to be evaluable, Dr. Steidl, testifying on behalf of MorphoSys, contradicted the contemporaneous documents to argue that the Jerini Replitope Report is nonetheless unreliable. See Steidl Dep. Tr. at 251:17-252:24 (Tesar “used parentheses [sic, quotation marks]. And you could -- well, of course it’s interpretation. But my interpretation is that these data are not reliable. Why would he other—otherwise used parentheses? And he used also interestingly the wording that it has been declared analyzable. That’s—I think that’s what—what is your translation say? ‘Evaluable.’ ‘Declared to be evaluable.’ For me also implies that he had some doubt whether that was the

case. So it's not—it's not his opinion. It says it was 'declared evaluable,' and he's taken this for a qualitative graphic.") This testimony stands in contrast to numerous documents in Morphosys's internal documents, as set forth below.

316. Dr. Steidl, again testifying on behalf of MorphoSys, even went so far as to testify that no valid epitope data exists for the company's MOR03087 ("MOR202") clinical lead candidate—because those results, as shown in company materials, came from the same Jerini Replitope Report that Dr. Steidl now disparages:

Q. You understand that the epitope of daratumumab is different from the epitope of 3087?

A. I'm aware that there are published data on the daratumumab epitope, and as we—as MorphoSys—as I explained to you by judging the data from the PepSpot mapping is not valid, did not come to a conclusion what the actual 3087 epitope is. I can't answer the question, because I would be comparing published data with non-data.

Q. So is it—is it your position that MorphoSys doesn't know what the epitope of 3087 is?

A. We have not conducted, to the best of my knowledge, any other epitope mapping studies other than the two that we have discussed. So I do conclude we are not currently in possession of the knowledge of to say this is the 3087 epitope.

Steidl Dep. Tr. at 264:6-265:3.

317. MorphoSys witnesses were evidently prepared not to bring up the contradictory Jerini Replitope Report at all, and if it was brought up in deposition, to disparage it as "non-data."

318. But the witnesses' "party line" is completely undermined by contemporaneous documents, as well as deposition testimony secured after witnesses were presented with those documents, which tell a very different story.

319. *Internal Reliance on Replitope Results:* In a 2011 email to Dr. Steidl, Dr. Tesar described the Jerini Replitope Report as follows: "The Microarray experiment did not have the

difficulties, was declared by Jerini to be evaluable, and the result was ‘qualitatively’ drawn by me in a graph.” Ex. 1173. Despite deposition testimony to the contrary, contemporaneous documents set forth below reveal that the epitope results of the Jerini Replitope Report were extensively used and relied upon by MorphoSys at the same time that the ’746 Patent application was being prosecuted, and that MorphoSys specifically discussed the contradictory epitope data mere weeks before filing the ’061 continuation in part application.

320. *MorphoSys’s Witnesses’ Attempted Disavowal of MOR03087 Replitope Results:*

As noted earlier, at deposition Dr. Steidl testified on behalf of the company that MorphoSys does not actually know the epitope of MOR03087, the same antibody that is the company’s current clinical lead candidate (now designated as “MOR202”). Dr. Steidl boxed himself into this position by repeatedly asserting that the Jerini Replitope Report was “not valid,” notwithstanding that it was also the source of MorphoSys’s epitope data for MOR03087. See Steidl Dep. Tr. at 264:6-265:3 (“we -- as MorphoSys -- as I explained to you by judging the data from the PepSpot mapping is not valid, did not come to a conclusion what the actual 3087 epitope is”).

321. Contrary to Dr. Steidl’s testimony, MorphoSys has clearly relied on the results of the Jerini Replitope Report whenever it reported the epitope of MOR03087, which is its current clinical lead candidate (now designated as “MOR202”).

322. When confronted at deposition with his own 2008 email, Dr. Steidl admitted that he had personally provided MOR03087 epitope information based on data from the Jerini Replitope Report, without qualification, to MorphoSys’s Chief Scientific Officer. See Steidl Dep. Tr. at 266:6-267:18 (“it may be a comparison of the epitopes which has been in the report -- in this – this glass slide report being mentioned”).

323. And as set forth below, MorphoSys repeatedly and unequivocally relied on the MOR03080 and MOR03087 epitope data from the Jerini Replitope Report, both internally and externally.

324. *Reliance on MOR03080 Replitope Results—Communications with Celgene:* In May 2013, third party collaborator Celgene asked for “a summary of the results of the MOR3080 epitope mapping.” MSYS_00575470. Mr. Wiegel responded, stating “[p]lease find attached the summary of the MOR3080 epitope mapping,” and attached only the Jerini Replitope Report, in its entirety:

Sender: Paul Wiegel </O=MORPHOSYS_GMBH/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=PAULW>
Sent: Wednesday, May 29, 2013 11:05:45 AM
Recipient: Carla Kuhner <ckuhner@celgene.com>
Cc: Konstantin Petropoulos <Konstantin.Petropoulos@morphosys.com>; Ariel Jasie <ajasie@celgene.com>
Subject: RE: MOR3080 epitope MAP
Attachments: Antibody_Profiling_Tesar-8190_final.pdf

Dear Carla

Thanks for your patience. Please find attached the summary of the MOR3080 epitope mapping. Please let me know if you would like to discuss.

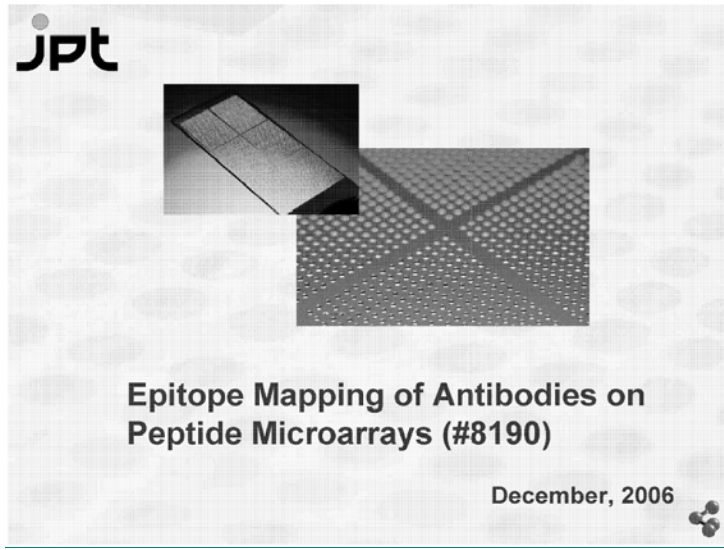
Kind regards,

Paul

Paul F. Wiegel, J.D., LL.M.
Associate Director, Intellectual Property
U.S. Patent Attorney

MorphoSys AG
Lena-Christ-Str. 48
D-82152 Planegg-Martinsried

MSYS_00575470.



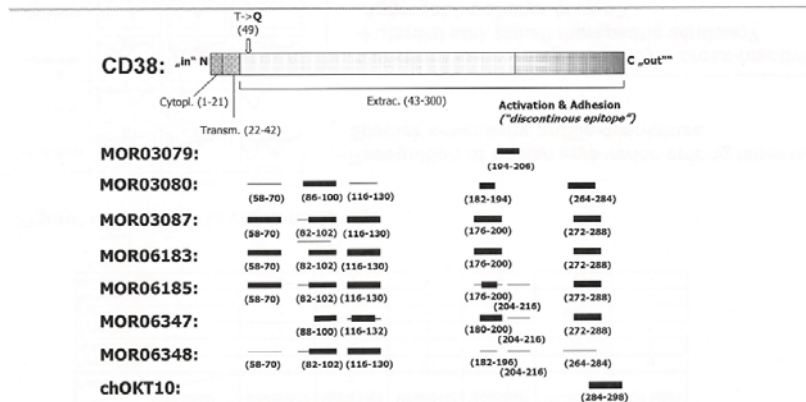
MSYS_00575472.

325. MorphoSys's explicit reliance on the Jerini Replitope Report—including providing third-party collaborator Celgene without qualification as a “summary of the MOR3080 epitope mapping”—belies Dr. Steidl's deposition testimony that the Jerini Replitope Report was considered unreliable, and clearly demonstrates that MorphoSys both internally and externally relied on the revised epitopes for MOR03080 in the Jerini Replitope Report without ever providing them to the Patent Office.

326. *Reliance on MOR03080 Replitope Results—2007 R&D Presentation:* A January 16, 2007 MorphoSys R&D presentation (Ex. 1123) included epitope mapping data derived from the Jerini Replitope Report. A slide therein prepared by Dr. Tesar (*see* Steidl 252-53; Ex. 1173) presented only the revised epitope results for MOR03080 (*see* Ex. 1123 at slide 29), omitting completely the earlier Figure 7 results:

In Vitro Characterization: Epitope Mapping

morphosys



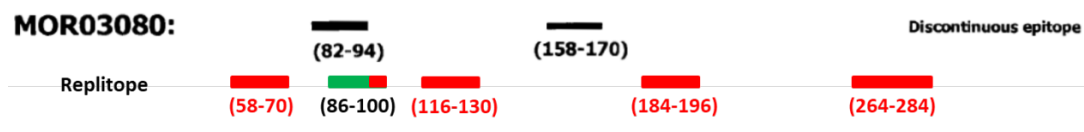
- Discontinuous epitopes shown for MOR03080, MOR03087 & 03088 derivatives
- Similar profiles of MOR03080, MOR03087, MOR03087- & 03088-derivatives
- Marmoset cross-reactivity could reside within aa116-130?

Page 29

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327. Both 30(b)(6) designee Dr. Steidl and Chief Scientific Officer Dr. Sproll confirmed at deposition that MorphoSys graphs depicting MOR03080 epitopes were different from 2005 to 2007 (*i.e.*, before and after the Jerini Replitepe Report). *See* Sproll Dep. Tr. at 239:2-240:14; *see also* Steidl Dep. Tr. at 228:12-17 ("the two depictions are different"). Yet the Patent Office received only one.

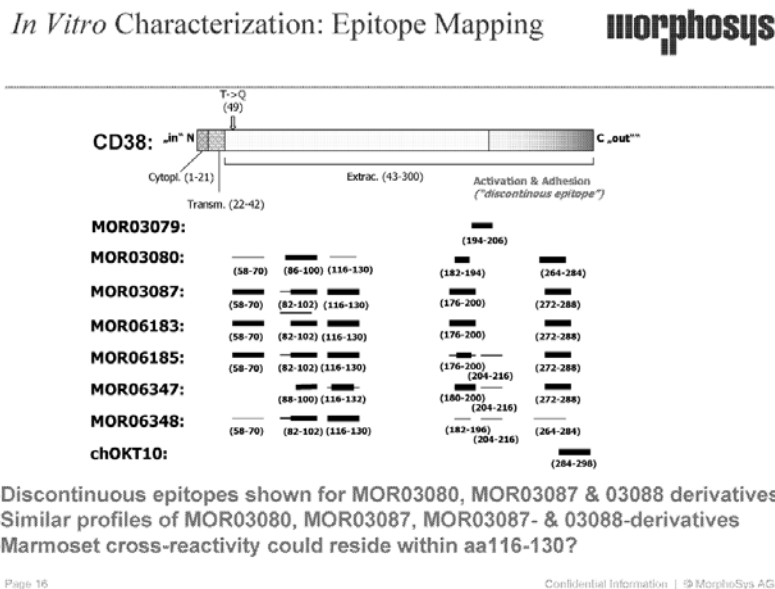
328. The 2007 R&D meeting data came from the Jerini Replitepe Report. Again, the figure below compares the MOR03080 epitope reported in patent Figure 7 (top) with the Jerini Replitepe Results (colored), which are also seen in the 2007 presentation:



329. This "Epitope Mapping" data was presented alongside other results, with no mention made of the data being unreliable in any way. *See* Steidl Dep. Tr. at 222:25-227:19 (Dr. Steidl unable to point to any document that stated that epitope results in the 2007 R&D Meeting presentation were not reliable).

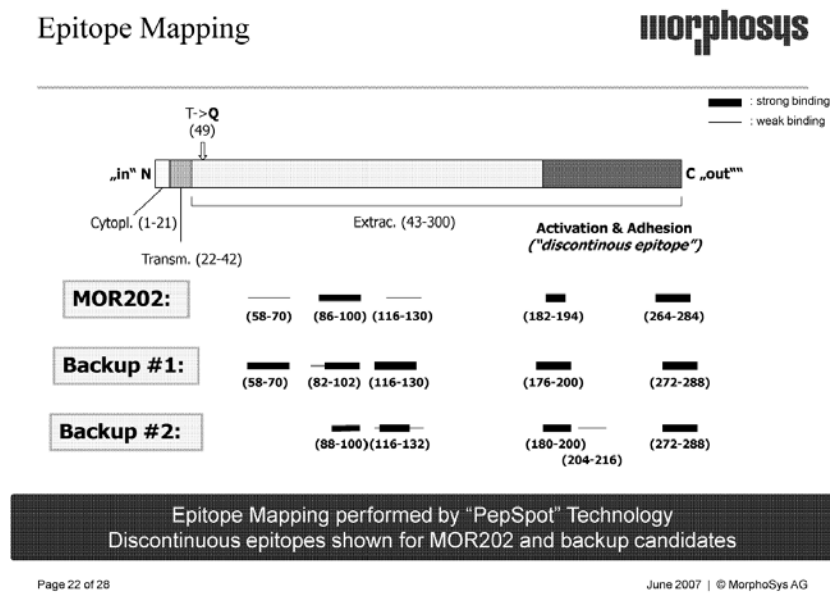
330. MorphoSys testified that this 2007 presentation (Ex. 1123) containing revised MOR03080 epitope data based on the Jerini Replitope Report was provided to top company management, including the CEO and CSO of MorphoSys. See Steidl Dep. Tr. at 220:18-221:16 (“In the framework of the RDM, and indeed the three Vorstand members have been CC’d”). And this was done without qualification – with no mention of the new data being unreliable or flawed in any way. Rather, it was presented as the accurate data, which MorphoSys nevertheless withheld from the Patent Office, putting issuance of their patents above truth and candor.

331. Reliance on MOR03080 and MOR03087 Replitope Results—2007 Vorstand Presentation: On information and belief, on Feb. 8, 2007, the MOR202 Project Team also presented to the board and senior executives of MorphoSys (“Vorstand”) the presentation “Development of MOR202 for Multiple Myeloma: Selection of a lead candidate for an IND-enabling development programme.” MSYS_00267821 These slides again included the same depiction of MOR03080 and MOR03087 epitopes derived from the Jerini Replitope Report:



MSYS_00267821 at Slide 16.

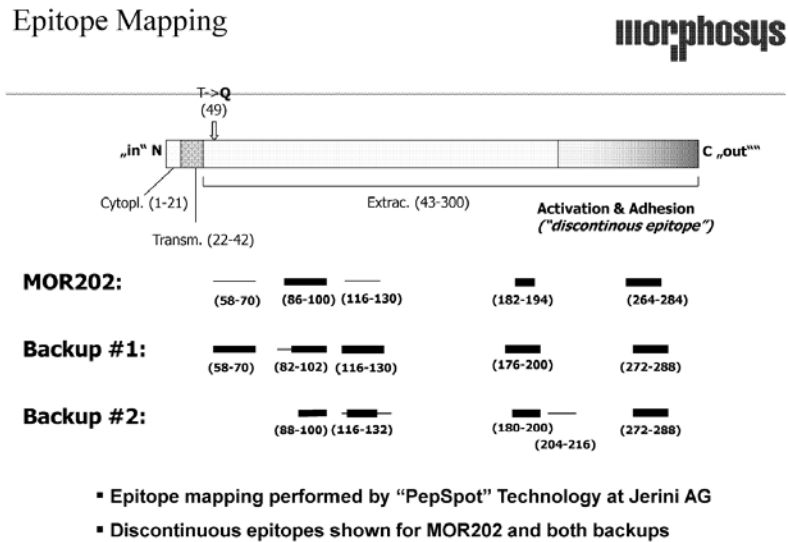
332. *Reliance on MOR03080 and MOR03087 Replitope Results—2007 Ahrens Conference Presentation:* On information and belief, on June 18-20, 2007 MorphoSys employee Bianca Ahrens (Scientist, Research & Development) presented “MOR202: A Fully Human Antibody against CD38 for the Treatment of Multiple Myeloma and other Blood Borne Malignancies” at the “24th International Conference, ‘Advances in the Application of Monoclonal Antibodies in Clinical Oncology,’ Limassol, Cyprus.” The final-version slides (*see* May 25, 2007 Ahrens email, MSYS_01968789) include, without qualification or caveat, epitope data for MOR03080 (here called “MOR202,” as it was still at this time considered the lead candidate), along with MOR03087 (here called “Backup #1”) that precisely matches the Jerini Replitope Report (and contradicts Figure 7 in the Patents-in-Suit):



MSYS_01968790 at Slide 22; MSYS_01047175 at Slide 22.

333. *Reliance on MOR03080 and MOR03087 Replitope Results—2007 Tesar ASCO Conference Presentation:* On information and belief, on Apr. 30, 2007, Dr. Tesar presented a series of slides at the 2007 ASCO Conference (*see* MSYS_00093843 and MSYS_00092990).

These slides included the same depiction of MOR03080 and MOR03087 epitopes derived from the Jerini Replitope Report:



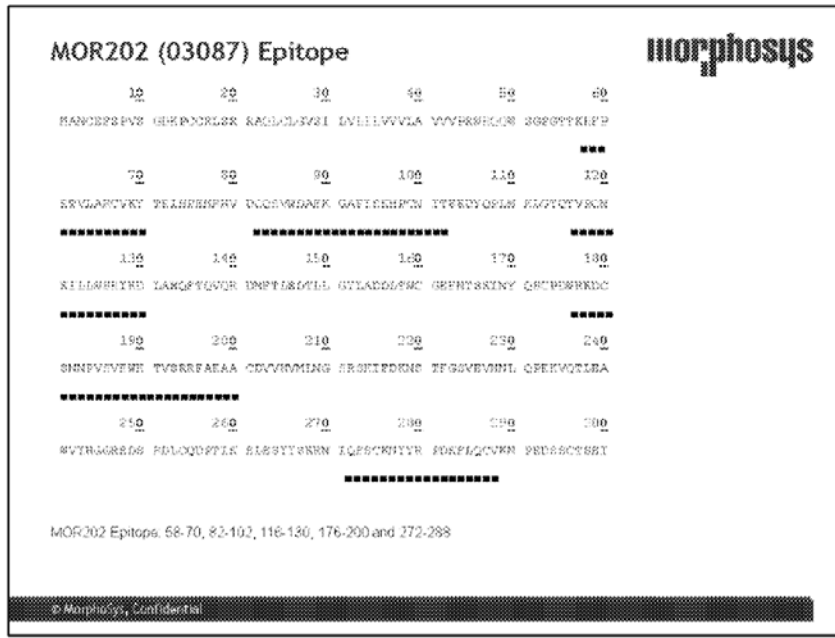
Page 11

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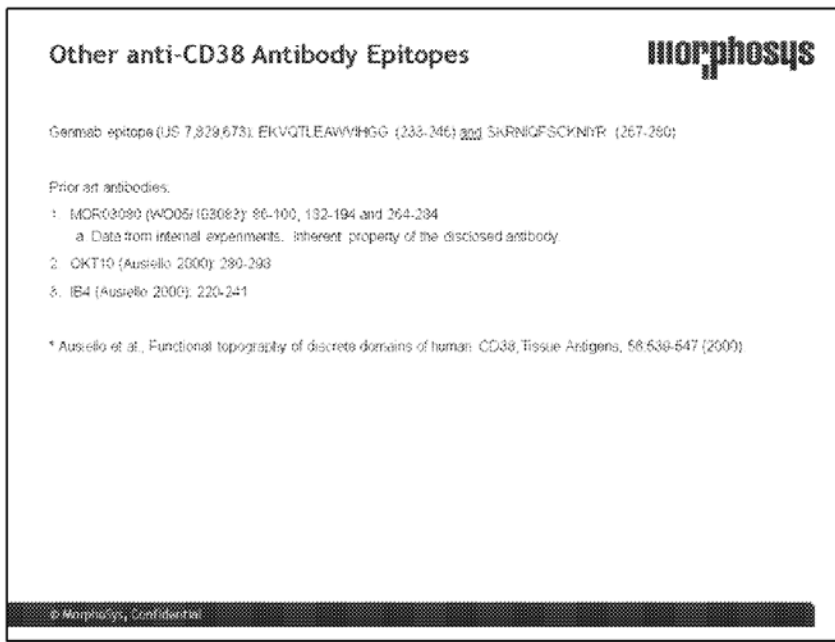
MSYS_00092991 at Slide 11.

334. Similar slides were also communicated to a Professor Keppler on Jan. 14, 2008 (see MSYS_01036829 from MorphoSys business development to Prof. Keppler, providing “further information on our MOR202 oncology program”; see also attachment MSYS_01036830 at slide 22).

335. *Reliance on MOR03080 and MOR03087 Replitope Results—Communications with [REDACTED]:* In February 2013, Mr. Wiegel wrote to [REDACTED], subject “MOR202 epitope,” (MSYS_01884788) attaching a slide presentation (MSYS_01884789) that reported both the MOR03080 and MOR03087 epitopes using data drawn from the Jerini Replitope Report:

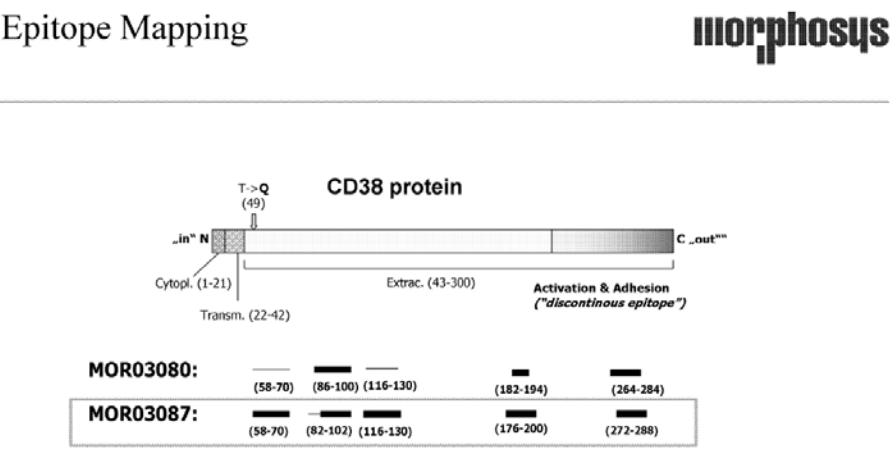


MSYS_01884789 at slide 2 (Reporting “MOR202 Epitope: 58-70, 82-102, 116-130, 176-200, and 272-288”).



MSYS_01884789 at slide 3 (Reporting “MOR03080 (WO05/103083): 86-100, 182-194, and 264-284”).

336. Further, Extensive Reliance on MOR03087 Replitope Results, and Epitope Comparisons of MOR03087 to Genmab’s Accused Product: In an 84-slide December 2008 PowerPoint presentation titled “MOR202: Characterization of MOR03087: Project Update,” MorphoSys presented “Epitope Mapping” data for both MOR03080 and MOR03087, with values exactly matching the ranges reported in the Jerini Replitope Report:



- Discontinuous epitopes shown for MOR03087 and MOR03080
- Similar profile for MOR03087 and MOR03080

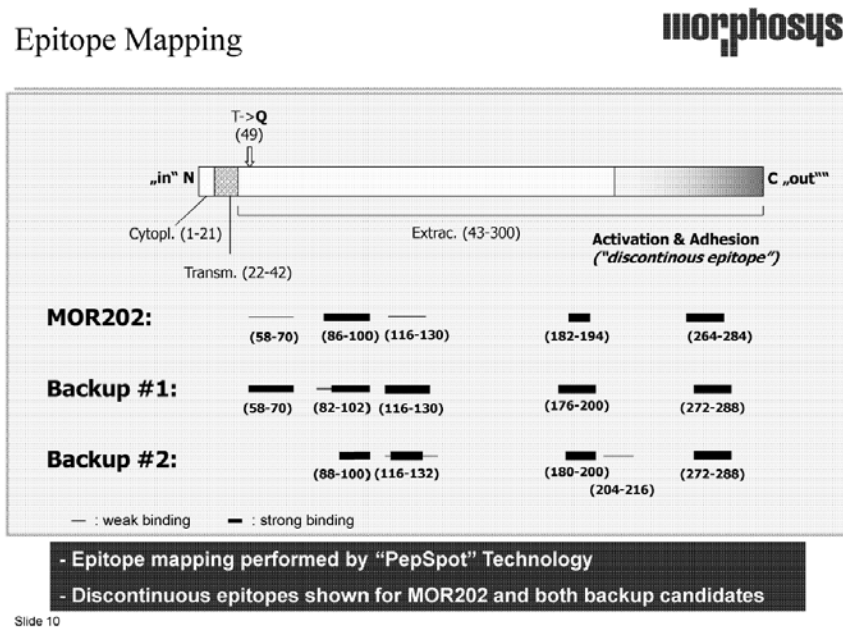
MSYS_00064221 at slide 26.

337. And in this same 2008 presentation, MorphoSys directly compared its MOR03087 clinical lead candidate to its Sanofi and Genmab competitors, including a comparison of epitopes. In a row titled “Epitope Mapping (MOR),” MorphoSys reported the MOR03087 epitope as “Peptides recognized: aa 58-70, aa 82-102, aa 116-130, aa 176-200, aa 272-288,” which again directly corresponds to the Jerini Replitope Report (and contradicts Figure 7 of the Patents-in-Suit):

Epitope Mapping (Genmab)	FACS: Competition with 0B3 and 0B5 on CHOCD38+ (no info on 024)	no comp. with 0B5	no comp. with 0B3	no info										
	Peptides recognized: SKRNQFSCNMYR (aa257-280) & EKVDLEAWYHGG (aa253-246)	+	+	+										
	Sub-Motif: RNDQ especially recognized by antibody	+												
Epitope Mapping (MOR)	Sub-Motif: KRN & VQTL especially recognized by antibody		+											
	Peptides recognized: aa 58-70; aa 82-102; aa116-130; aa 176-200; aa272-288													

[MSYS_00064221 at slide 84.](#)

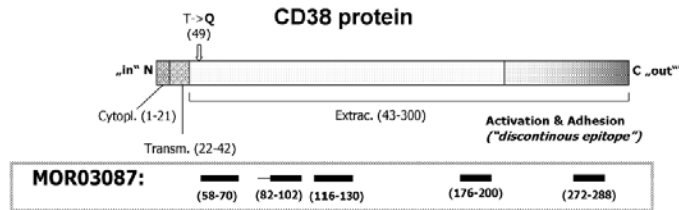
338. In another slide presentation, MorphoSys again included epitope data taken from the Jerini Replitope Report for MOR03080 (here listed as “MOR202”), as well as for MOR03087 (here still listed as “Backup #1):



[MSYS_00078190 at slide 10.](#)

339. In an April 2009 presentation for a “confidential MOR pipeline presentation held... at Tracon,” which “combine[s] data already presented at a conference plus some new slides,” (see accompanying email MSYS_00012791), MorphoSys again relied on the Jerini Replitope Report data for MOR03087:

Epitope Mapping



- Discontinuous epitope shown for MOR03087

MSYS_00012821 at slide 17.

340. *MorphoSys's Knowledge of Contradictory Data and Selective Disclosure:*

Contemporaneous documents show MorphoSys knew that its Figure 7 data was contradicted at the very least by the Jerini Replitope Report.

341. In a 2009 email, Dr. Tesar stated that “[u]nfortunately,” in doing the follow-up Jerini epitope mapping, “the old epitopes from MOR03080 could not be completely confirmed... I have also brought this up at Jerini, but they are unable to give me a reason for this.” Ex. 1111.

342. Dr. Tesar also stated that of “two epitope mappings from Jerini,” “[f]or the patent, we have taken the data from the first epitope mapping.” *Id.*

343. Dr. Tesar stated in an August 18, 2011 email to Dr. Steidl that MOR03080 had been used in the Jerini Replitope Report as a “positive control,” but that “[u]nfortunately, there was only partial agreement of the MOR03080 with the already available epitope from the very first Jerini measurement... Discontinuing epitopes are certainly much more difficult to determine than linear ones.” Ex. 1173.

344. In the same 2011 email to Dr. Steidl, Dr. Tesar stated that MorphoSys had “agreed on further mapping experiment using RepliTope Peptide Microarray”, noted that the Jerini Replitope Report was “evaluable,” and then stated “[a]s far as I know, only the results from the ‘evaluable’ report were used for the patent? Please correct me if I am wrong here.” *Id.*

345. This 2011 email was sent mere weeks before the continuation-in-part application that would eventually issue as the ’061 Patent was filed, and exactly two months before MorphoSys submitted new ’746 claims 142-148 to the Patent Office, directed to, e.g., “[a]n isolated antibody or antibody fragment thereof containing an antigen-binding region... which specifically binds within amino acids **82-94 or 158-170** of CD38”—stating that “[s]upport for these claims can be found, for example, at Figure 7 and ¶¶ 0136-0138 of the published specification.”

346. These exchanges reveal that at least Drs. Tesar and Steidl knew that the results of the Jerini Replitope Report were usable, reliable, and should be “used for the patent,” and also reveal that they specifically selected which results should be and were being used “for the patent”—and yet the Jerini Replitope Results never were submitted to the Patent Office.

347. Mr. Wiegel knew of and relied upon the MOR03080 epitope results from the Jerini Replitope Report, and in fact specifically communicated the Jerini Replitope Report to Celgene in May 2013. Celgene asked for “a summary of the results of the MOR3080 epitope mapping,” and Mr. Wiegel responded, “[p]lease find attached the summary of the MOR3080 epitope mapping.” Mr. Wiegel attached only the Jerini Replitope Report, in its entirety:

Sender: Paul Wiegel </O=MORPHOSYS_GMBH/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=PAULW>
Sent: Wednesday, May 29, 2013 11:05:45 AM
Recipient: Carla Kuhner <ckuhner@celgene.com>
Cc: Konstantin Petropoulos <Konstantin.Petropoulos@morphosys.com>; Ariel Jasie <ajasie@celgene.com>
Subject: RE: MOR3080 epitope MAP
Attachments: Antibody_Profiling_Tesar-8190_final.pdf

Dear Carla

Thanks for your patience. Please find attached the summary of the MOR3080 epitope mapping. Please let me know if you would like to discuss.

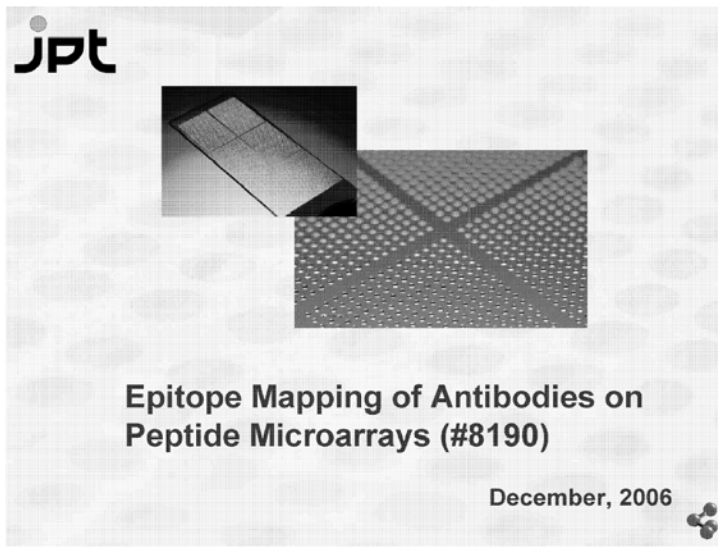
Kind regards,

Paul

Paul F. Wiegel, J.D., LL.M.
Associate Director, Intellectual Property
U.S. Patent Attorney

MorphoSys AG
Lena-Christ-Str. 48
D-82152 Planegg-Martinsried

[MSYS_00575470.](#)



[MSYS_00575472.](#)

348. Mr. Wiegel also knew of MorphoSys's reliance on the Jerini Replitope Report for MOR03087 epitope data. See MSYS_01679593 (Mar. 1 2013 email to Wiegel), listing epitopes "found for MOR03087" including "58-70," "82-102," "116-130," "176-200," and "272-288":

Paul Wiegel

From: Roy Elyenstein
Sent: Freitag, 1. März 2013 15:41
To: Jan Endell; Stéphane Leclair; Paul Wiegel; Daniel Weinfurtner; Konstantin Petropoulos
Subject: RE: Genmabs epitope claim
Attachments: 3087_epitope_backside.png; 3087_epitope_frontside.png; 3087 _epitope_backside_cartoon.png

Dear all,

here is the CD38 with epitope colored per region which was found for MOR03087. Same orientation! Also as cartoon representation.

Legend:

Color	→	region
Red	→	58-70
Orange	→	82-102
Yellow	→	116-130
Brown	→	176-200
Pink+Violet (overlap)	→	272-288

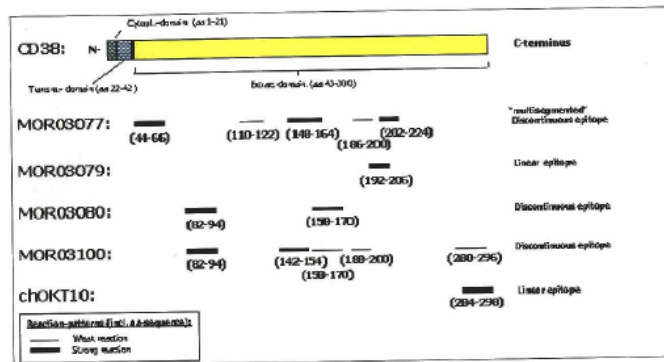
For further questions, please drop me a line or give me a call.

Best, Roy

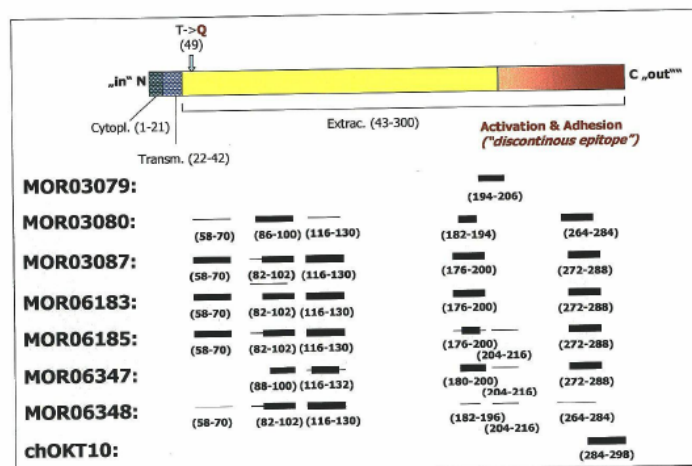
[MSYS_01679593.](#)

349. Moreover, Mr. Wiegel knew that MorphoSys had obtained conflicting epitope results for MOR03080, and that only the initial results had been disclosed to the Patent Office. Mr. Wiegel is listed as custodian of MSYS_00387361, which compares “[e]pitope mapping” results, and lists Figure 7 epitope data for MOR03080, noting in the caption that this data is “From... CD38 patent,” and directly below, listing the entirely different Jerini Replitope Report epitope data for MOR03080, with the caption “fort he [sic] project transfer (3rd June 2008)”:

Epitope mapping



From CD38 final report and CD38 patent



From the summary of MOR03087 data for the project transfer (3rd June 2008)

[MSYS_00387361.](#)

350. [A copy of this same comparison figure, with the same captions noting use of the top results in the "CD38 patent," also was sent to Dr. Tesar on Sep. 6, 2010. See MSYS_00414162, attaching MSYS_00414163.](#)

351. [The **only** reasonable conclusion from this evidence is that at least Dr. Tesar, Dr. Steidl, Dr. Sproll, and Mr. Wiegel acted with specific intent to deceive the Patent Office. They were more concerned with obtaining their patents than with their duty of candor to the Patent Office.](#)

352. *Summary:* In support of Figure 7—the sole support for every epitope-based claim in every Patent-in-Suit—MorphoSys submitted to the Patent Office only the results from the initial Jerini 3571 Report, and did not submit the contradictory results of the Jerini Replitope Report obtained from the same “state of the art” vendor—despite MorphoSys’s own extensive reliance (without qualification) on that same data, and despite the lead inventor explicitly stating his belief that the Jerini Replitope Report results had been “used for the patent.” Ex. 1173.

353. Drs. Tesar, Steidl, and Sproll, Mr. Wiegel, and other individuals associated with the filing or prosecution of the patent applications, did not disclose to the Patent Office the Jerini Replitope Report. The Jerini Replitope Report not only directly contradicts the Figure 7 epitope for MOR03080, but also calls into question the reliability of every epitope region reported in Figure 7 of the Patents-in-Suit—the very figure upon which all epitope claims in the Patents-in-Suit are based.

354. Figure 7, with MOR03080 results corrected to show the contradictory epitope from the Jerini Replitope Report, is shown below:



355. Drs. Tesar, Steidl, and Sproll, Mr. Wiegel, and other individuals associated with the filing or prosecution of the patent applications, also did not disclose to the Patent Office other results that contradicted Figure 7, including the NMI MapART peptide mapping results, the NMI EST report, the Fc-fusion ELISA, or the Malavasi Competition Experiment results.

356. Furthermore and in particular, Dr. Steidl’s changing deposition testimony regarding the reliability of the Jerini Replitope Report and his criticism of that report despite MorphoSys’s own reliance on it are strong evidence of intent to deceive the Patent Office.

357. On information and belief, the instruction to withhold anti-CD38 epitope mapping information came from the highest levels of the company—for example, MorphoSys Chief Scientific Officer Dr. Sproll wrote to CD38 project scientists in 2005 that “[w]ith regard to further work on the epitope mapping [of] CD38: Please keep in mind that we at first have to ensure with IP that we do not compromise our already files [sic] patent application!!!” Ex. 1124. This is strong evidence that MorphoSys was aware of its duty to report contradictory results, yet intended to “ensure” that its actions did not “compromise” the already filed patent applications.

358. The single most reasonable conclusion (and indeed the only credible conclusion) from this evidence is Dr. Tesar, Dr. Steidl, Dr. Sproll, and/or Mr. Wiegel, and potentially other individuals associated with the filing or prosecution of the patent applications, acted with specific intent to deceive the Patent Office.

First Claim for Relief
(Unenforceability of the '746 Patent)

359. MorphoSys brought an action against the Genmab Defendants for alleged infringement of the '746 Patent.

360. The '746 Patent is unenforceable due to inequitable conduct for the reasons set forth in paragraphs 202 to 358 above, incorporated herein by reference. MorphoSys's conduct renders this case exceptional under 35 U.S.C. § 285.

361. An actual and justiciable controversy exists between the parties with respect to the '746 Patent. The Genmab Defendants are entitled to a declaratory judgment that the '746 Patent is unenforceable.

Second Claim for Relief
(Unenforceability of the '061 Patent)

362. MorphoSys brought an action against the Genmab Defendants for alleged infringement of the '061 Patent.

363. The '061 Patent is unenforceable due to inequitable conduct for the reasons set forth in paragraphs 202 to 358 above, incorporated herein by reference. MorphoSys's conduct renders this case exceptional under 35 U.S.C. § 285.

364. An actual and justiciable controversy exists between the parties with respect to the '061 Patent. The Genmab Defendants are entitled to a declaratory judgment that the '061 Patent is unenforceable.

Third Claim for Relief
(Unenforceability of the '590 Patent)

365. MorphoSys brought an action against the Genmab Defendants for alleged infringement of the '590 Patent.

366. The '590 Patent is unenforceable due to inequitable conduct for the reasons set forth in paragraphs 202 to 358 above, incorporated herein by reference. MorphoSys's conduct renders this case exceptional under 35 U.S.C. § 285.

367. An actual and justiciable controversy exists between the parties with respect to the '590 Patent. The Genmab Defendants are entitled to a declaratory judgment that the '590 Patent is unenforceable.

PRAYER FOR RELIEF

WHEREFORE, the Genmab Defendants respectfully request the following relief:

(a) the entry of judgment on the Second Amended Complaint in favor of the Genmab Defendants, and against MorphoSys, with MorphoSys not being awarded any relief;

(b) the entry of judgment that the Genmab Defendants have not infringed and are not infringing any valid and enforceable claim of the '746, '061, or '590 Patents, either directly or indirectly, contributorily or by inducement, literally or under the doctrine of equivalents;

(c) the entry of judgment that each and every claim of the '746, '061, or '590 Patents is invalid;

~~(d)~~ (d) a declaratory judgment that the '746, '061, and '590 Patents are unenforceable;

(e) denial of MorphoSys's request for damages, attorney fees, costs, and expenses;

(ef) a declaration that this is an "exceptional case" within the meaning of 35 U.S.C. § 285, and an award to the Genmab Defendants of their expenses, costs and attorneys' fees; and

(fg) an award to the Genmab Defendants of such other and further equitable or legal relief as the Court deems just and proper.

MORRIS, NICHOLS, ARSHT & TUNNELL LLP

/s/ Brian P. Egan

OF COUNSEL:

Michael A. Morin
David P. Frazier
Emily K. Sauter
LATHAM & WATKINS LLP
555 Eleventh Street, NW
Suite 1000
Washington, DC 20004
(202) 637-2200

Roger J. Chin
LATHAM & WATKINS LLP
505 Montgomery Street
Suite 2000
San Francisco, CA 94111
(415) 391-0600

Michael R. Seringhaus
LATHAM & WATKINS LLP

Jack B. Blumenfeld (#1014)
Brian P. Egan (#6227)
1201 North Market Street
P.O. Box 1347
Wilmington, DE 19899
(302) 658-9200
jblumenfeld@mnat.com
began@mnat.com

*Attorneys for Defendants Genmab US, Inc.,
and Genmab A/S*

140 Scott Drive
Menlo Park, CA 94306
(650) 328-4600

~~Brenda L. Danek~~
~~Ann Marie Wahls~~
~~LATHAM & WATKINS LLP~~
~~3300 North Wabash Avenue~~
~~Suite 2800~~
~~Chicago, IL 60611~~
~~(312) 867-7700~~

~~October 26, 2017~~

March 5, 2018

CERTIFICATE OF SERVICE

I hereby certify that on March 13, 2018, I caused the foregoing to be electronically filed with the Clerk of the Court using CM/ECF, which will send notification of such filing to all registered participants.

I further certify that I caused copies of the foregoing document to be served on March 13, 2018, upon the following in the manner indicated:

Kelly E. Farnan, Esquire
Christine D. Haynes, Esquire
RICHARDS, LAYTON & FINGER, P.A.
One Rodney Square
920 North King Street
Wilmington, DE 19801
Attorneys for Plaintiff

VIA ELECTRONIC MAIL

James F. Hurst, Esquire
KIRKLAND & ELLIS LLP
300 North LaSalle
Chicago, IL 60654
Attorneys for Plaintiff

VIA ELECTRONIC MAIL

Patricia A. Carson, Esquire
Christopher T. Jagoe, Esquire
Aaron D. Resetarits, Esquire
Christopher Ilardi, Esquire
KIRKLAND & ELLIS LLP
601 Lexington Avenue
New York, NY 10022
Attorneys for Plaintiff

VIA ELECTRONIC MAIL

/s/ Brian P. Egan

Brian P. Egan (#6227)